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## Analysis of the inland port of Bujumbura

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WORLD MARITIME UNIVERSITY

MALMO, SWEDEN.

ANALYSIS OF THE INLAND PORT OF BUJUMBURA

CONSTRAINTS AND PROSPECTS.

by

Louise BIRASA

Republic of BURUNDI



A paper submitted to the Faculty of the World Maritime University in partial satisfaction of the requirements for the award of a:

MASTER OF SCIENCE DEGREE  
in  
GENERAL MARITIME ADMINISTRATION

The contents of this paper reflect my personal views and are not necessarily endorsed by the University.

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ANALYSIS OF THE PORT OF BUJUMBURA  
CONSTRAINTS AND PROSPECTS.

by

Louise BIRASA

World Maritime University  
Malmo, Sweden  
October 1988

TO CONCESSA AND THOMAS,

my parents  
for their unfailing love  
and moral support  
which has always been  
a guiding force in my life.

## ABSTRACT

The study "ANALYSIS OF THE INLAND PORT OF BUJUMBURA - CONSTRAINTS AND PROSPECTS" has been undertaken in order to assist the port manager in solving the problems encountered during day to day port operations and to provide a guideline for those faced with the responsibilities for the transportation of imported and exported cargoes.

However, this study is delimited in several respects:

- a) the financial aspects of the port of Bujumbura are not covered since adequate knowledge of this subject is limited on the part of the author;
- b) containerization is not dealt with as the author believes that its real development on the Lake will take a long time and it is a detailed subject which can be debated separately;
- c) oil and mineral transport is also excluded as the storage of these products fall under the aegis of another administration "Societe d' entreposage du petrole" (SEP) and not the Port.

Finally, the study covers only the period up the year 2002 due to the unavailability of suitable material to provide adequate information beyond this time.

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## ACKNOWLEDGEMENTS

I would like to address my sincere gratitude to the undermentioned persons and organisations who were instrumental in the completion of this paper:

- Carl Duisberg Gesellschaft e.V. (CDG) for having sponsored my study during these two years.
- Eric Nordstrom, Rector of the World Maritime University for being available whenever I required his assistance;
- Clive Cole, Alison Howe and Colin Moon of the English Language Programme, for their patience and kindness and without whose help subsequent study at WMU would have been difficult;
- My family, whose love has always sustained me; and most of all Babacar Diop whose friendship and affection has been everything to me.

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## ABREVIATIONS

AMI	: Agence Maritime Internationale
ARNOLAC	: Armement Nord Lac
art	: article
CFL	: Compagnie des Chemins de Fer du Congo Supérieur aux Grands Lacs Africains.
CGL	: Compagnie de Grands Lacs
E.P.B	: Exploitation du Port de Bujumbura
GNP	: Gross National Product
OCCR	: Organisation et Contrôle Conception et Realisation
O.M	: Ordonnance Ministerielle
PTA	: Preferential Trade Area
TEU	: Twenty Equivalent Unit
THA	: Tanzania Harbour Authority
TRC	: Tanzania Railway Corporation
UNCTAD	: United Nations Conference On Trade And Development
UNDP	: United Nations Development Programme

## INTRODUCTION

The Port of Bujumbura being an Inland port on the lake Tanganyika, was established to serve the sub-region consisting of East of Zaire situated at about 2000 km from the port of Matadi in the Atlantic Ocean, Rwanda in the North and Burundi.

The latter is situated approximately 1450 km from the Indian Ocean through the so called "Central Corridor".

The Central Corridor i.e. the route consisting of lake Tanganyika-Port of Kigoma -Port of Dar-es-Salaam has always served as a traditional and natural outlet to reach the Indian Ocean.

From 1970, the situation changed due to poor working conditions of the railway connecting the port of Kigoma to that of Dar-es-Salaam, together with an economic crisis in the whole country. Since then a significant quantity of cargoes has been diverted to the North by road transport crossing Rwanda, Uganda, via the Port of Mombasa in the Indian Ocean in Kenya. (Northern Corridor)

There has been no real economic advantage as a result, this being the longest route.

In fact 2,209 km separate the inland Port of Bujumbura from the Port of Mombasa.

Moreover more expenses are involved due to the high numbers of transit countries involved.

Nevertheless, importers of Burundi prefer this route because although it is longer, it offers less delay in transit and provide them with more flexibility.

The port is now operating at half capacity.

The author believes that if some managerial and economical problems which hamper the throughput of Burundi cargoes along the Central Corridor were removed, there is no doubt that the inland Port of Bujumbura would contribute to saving the country's hard currency.

Countries the world over are interested in the reduction of their transport costs. It is particularly imperative for a landlocked country to do its best in order to minimize its transport costs.

Furthermore, the inland Port of Bujumbura enjoys a good position in the sub-region with attractive prospects for port development and overall development of the country.

For the reasons mentioned above, the aim of the author is

- a) to seek to resolve the problems directly or indirectly concerned with port development, which have been a consequence of managerial problems and the landlocked nature of the country.
- b) to make proposal for a relevant port management structure, and
- c) to suggest the adoption at the national and regional level of some measures which will favor port development, and without which the inland port development will be severely restricted.

## CHAPTER ONE

### PRESENTATION OF BURUNDI.

#### Geography

Burundi is a landlocked country in East-central Africa with an area of 27,834 sq km situated about 1,428 and 2,273 km from the port of DAR-ES-Salaam in Tanzania and the port of Mombasa in Kenya respectively.

Burundi is bound in the North by Rwanda, in the East and South by Tanzania, and in the West by Zaire.

Its capital city is Bujumbura situated along the lake Tanganyika.

#### Topography

Burundi is a small hilly country, with a Western range of mountains running North-South and continuing into Rwanda. The highest summit is 2760m.

The only land below 914m is a narrow strip of plain along the Rusizi River which forms the Western border north of lake Tanganyika. From the mountains eastward, the land declines gradually, dropping to about 1,400m toward the Southeastern and Southern borders.

The average elevation of the central plateau is about 1,700 m. The topography of the country may be the cause of the lack of a transportation network such as railways, network, also creating a great difficulty for paved roads to be laid.

## Population

Burundi is one of the most densely populated countries. In 1988 the population was estimated at 4,7 million inhabitants with the average of 168 inhabitants per sq km. The annually crude birthrate is estimated at 2.3%. (1)

## Economy

The vast majority of the population depend on agriculture for a living. Most of the agriculture consists of subsistence farming with only about 15% of the total production being marketed. Burundi's economy relies on agriculture. As a matter of fact the primary sector is the most important with regard to the GNP of the country.

The figures in table 1 show the degree of interference of each of the three sectors of the economy considering the constant price of 1982 in millions of Burundi currency (FBU).

table 1

Sector	1983	%	1984	%	1985	%
Primary	49,562	58	46,998	56	50,530	56
Secondary	14,204	17	14,370	18	15,644	18
Third	21,610	25	22,318	26	23,350	27
Total	85,376	100	84,686	100	89,686	100

Source: BRB et Ministere a la Presidence

## Industries

In the eighties ,the government of Burundi became involved in manufacturing of import substitution products like flour, sugar, rice, glasses and bottles .At the present these do not affect Port traffic very much as they are still in the infantile stages of production, and as such, scarce quantities are exported.

Other industrial activities exist, most of which are mainly concentrated in Bujumbura. These consist of: several small plants for coffee processing , cotton ginning and the manufacture of cotton seed oil.

Other products are; soft drinks,blankets, footwear, soap, insecticides, building materials, furnitures, cigarettes, match boxes, oxygen...

Again these are almost entirely for local consumption .The large scale projects include the operation of a cotton-textile factory built in 1979 and a 18,000 kw power station inaugurated on the 25 of September 1986. A more detailed list will be given when dealing with the export products as a whole.

## Mining

Discoveries of valuable minerals are being investigated. A large deposit of Nickel which is estimated at 370 million tons,(3-5%) of world reserves has been found in the plateaus of Buhinda but its exploitation has been delayed due to the high transportation costs and the very low value cost of the metal in the world market.

An optimistic viewpoint puts the commencement of the exploitation of the deposit in the year 2000. The exploitation of some minerals like gold, tungsten and



cassiterite is undertaken but in very small quantities. Some hundred tons for each commodity per year. These do not influence the traffic either. Oil has been found in the plain of Rusizi and research is going on.

The exploitation of oil, if found in sufficient quantities will be beneficial for the economy of the country. Mineral oil import puts a heavy burden on the overall economy, as shown in table 2.

Table 2.

Evolution of mineral oil import for the years 1980 to 1985

Year	Quantity in Tons	Value in Million FBU
1980	35,525	2.296,1
1981	37,062	3.013,7
1982	34,999	2.825,9
1983	39,881	2.778,8
1984	33,906	4.171,2
1985	48,430	4.090,7

Compared with overall import, mineral oil import represented for the years 84-85 about 18% of the total imports and between 35,2% and 30% of export earning.

## External trade

### i) Export

The role of the primary sector in the GNP has already been pointed out. Burundi like other developing countries imports more than it exports. Actually, coffee is the principal export product and has provided between 84 and 89% of the total income for the period 1980-1985.

Cotton is second and tea third. In tables 3, 4 and 5 the trend of these agricultural products for the 5 years between 1981-1986 is highlighted.

Table 3

COFFEE (in tons)

Year	Production	Exportation
1981-1982	43,824	43,700
1982-1983	20,311	20,221
1983-1984	36,021	35,954
1984-1985	27,005	26,930
1985-1986	32,171	15,868

Source OCIBU

Table 4

Production of cotton in tons

Production	1982	1983	1984	1985
grain-cotton	5,701	4,738	6,533	7,155
fiber-cotton	2,077	1,696	2,322	2,583
Export	2,063	1,923	404	221

Sources COGERCO Douane et BRB

The reduction of cotton export resulted from an increase of internal consumption through the operation of a large textile factory built in 1979.

Still the production is not optimum. Significant improvements are still required.

Table 5  
Tea export in tons

year	production	export
1981	2,272	2,237
1982	2,178	2,175
1983	2,335	2,101
1984	3,445	3,073
1985	4,145	4,066

Source OTB

The above figures show that the export of tea has been increasing over the 5-year period. Unfortunately this positive trend is undermined by the collapse of the tea prices on the world market.

Beside these three main export commodities, there are others which exist in very low quantities. More details are provided in Table 6 and 7.

The structural evolution of export products in quantity (tons) and in value ( Million FBU ) will be found in tables 6, 7. (see p. 19 and 20 )

#### ii) Imports

Burundi imports more than it exports because its industrial sector is under-developed. The main categories of Burundi imports are production goods, equipment, consumables, both perishable and non-perishable.

#### Direction of trade

The main sources of import are found in table 8 while table 9 shows the main export destinations.

Table 8  
Main sources of import (Million FBU)

	1982	1983	1984
Benelux	3,057	2,635	3,285
Japan	1,516	1,094	1,196
France	2,269	1,759	3,124
West Germany	1,596	1,493	1,977
Kenya	792	638	758
USA	1,020	562	1,231
Italy	587	664	905
Tanzania	598	465	504
United kingdom	555	464	459
others	6,502	6,500	8,060
Total Import	19,280	17,025	22,383

Source: Bank of Burundi

Table 9  
Main export destinations

	1982	1983	1984
USA	2,528	155	189
West Germany	1,865	3,719	3,969
Italy	173	254	341
United Kingdom	233	134	270
Benelux	113	343	335
France	90	19	30
Others	2,788	2,843	6,644
Total exports	7,899	7,495	11,828

Source: Bank of Burundi

## Foreign trade balance

The only two years where the trade balance has been positive are 1976 and 1977 with respectively 392.7 Million and 1,333.3 Million FBU. Otherwise there has been deficit, outlined as follows in Million FBU:

- 9,249 in 1980
- 8,096 in 1981
- 11,397 in 1982
- 9,581 in 1983
- 7,901 in 1984
- 9,384 in 1985

Source (IMF)

## Infrastructure development

### i) Internal routes

The great hindrance to Burundi's economic development is the lack of an adequate transportation network. Road transport ways in Burundi are of 5,442km. Only 7% of these were tarred by the end of 1981. Since then the government is trying to solve the problem.

Actually, 11% more has been paved. In order to have an idea of how much effort has been put in that sector, Burundi is divided into 15 provinces, all but 3 of them are connected by a paved road to the capital city. Bearing in mind that the farthest region from the capital city is about 250km away, the existing transport network provides an adequate overall access.

## ii) External routes

Burundi has two main routes for its seaborne trade commonly known as the "the central corridor" and "the northern corridor". Appendix I shows these routes.

The so called "central corridor", a Tanzanian railway built in 1910 was exclusively the traditional outlet for Burundi, the East of Zaire mainly for its copper exports and a good part of Rwanda cargoes. It comprises the section of Dar-es-Salaam - Tabora - Kigoma. The total distance is 1430 km comprising 1255 km of rail plus 175 km on the lake Tanganyika.

However, towards the end of the seventies, the working conditions of that itinerary became progressively worse and practically useless to the users (congestion and its consequences for the country's economy.)

In the early eighties, another traffic lane (road/rail) was opened from the central corridor called "corridor d'Isaka." It consists of rail from Dar-es-Salaam - Tabora and then a road from Tabora- Isaka- Lusahanga- Kobero- Bujumbura. It is longer than the central, being 1580 km against 1430 km. This new line does not adequately solve the Burundi's transport problem as it does not offer an alternative.

All cargoes converge at the port of Dar-es-Salaam. Furthermore, it is a less attractive economic prospect for Burundi than the central corridor but it constitutes an exit gate. The section comprising Tabora- Kigoma is the most vulnerable in the link. Conversely, it presents a lot of advantage for Rwanda.

The second route "the northern corridor " arose as a reaction to the difficulties experienced in the central corridor. It presents two alternatives:

- road Burundi- Rwanda- Ouganda-Port of Mombasa in Kenya with a total distance of 2,025 km.
- combined road - rail, Bujumbura - Kigali- Kampala 874 km of road and then 1,335 km of rail with a total distance of 2,209 km.

Actually, as far as Burundi cargoes are concerned the first alternative is used because the second suffers from technical and managerial problems such as reduction of trains, lack of spare parts...

This corridor is mainly used for mineral oil imports and a pipeline has been built connecting Mombasa to Nairobi since 1977 reducing the transport distance to 452 km for Burundian importers.

Last but not least ,there also exist some regional trading routes across the Tanganyika: Bujumbura -Mpulungu in Zambia and Bujumbura -Kalemie in Zaire. Of course these do not give any open access but constitute considerable prospects for the development of the sub-region. Their importance will be dealt with in more detail in Chapter 4.

#### **Comparative study between the main routes of Burundi's export-import**

The figures in tables 10, 11 and 12, show the importance of each of the routes in the distribution of Burundi's imports and exports. (2 )

Table 10

Utilization of routes. Main routes of export in tons

Products	1980	1981	1982	1983	1984
coffee					
Kigoma-Dar-es-Salaam	18,510	27,106	30,461	24,835	
25,876					
tea					
Kigoma-Dar-es-Salaam	1,409	910	-	220	-
Mombasa-route	-	909	2,253	1,738	2,701
air	-	-	-	221	675
cotton					
Kigoma-Dar-es-Salaam	685	853	605	788	
407 Mombasa-route	52	79	1,453	1,138	
118 Total	20,656	29,857	34,777	28,937	
29,777 Others	2,253	2,872	3,120	3,120	
7,810 Total	22,909	32,729	37,987	32,057	
37,587					

According to this table, the route Dar-es-Salaam-Kigoma-lake is the main route of export as it controls the monopoly on coffee which is the most important export product.



Table 11  
Import by roads and by type of products in tons

	1980	1981	1982	1983	1984
<b>Raw material</b>	<b>66,920</b>	<b>69,316</b>	<b>87,394</b>	<b>87,416</b>	<b>95,395</b>
Dar-es-Salaam					
Kigoma	39,619	32,197	30,959	35,136	38,368
Mpulungu-Lac	17,858	18,480	22,814	19,083	37,368
Mombassa-road	9,184	17,906	30,043	32,487	18,985
Air	259	295	408	355	386
Dar-es-Salaam					
Isaka	-	438	1,079	355	136
 <b>Petroleum</b>					
<b>products</b>	<b>34,318</b>	<b>35,427</b>	<b>33,583</b>	<b>38,060</b>	<b>50,914</b>
Dar-es-Salaam					
Kigoma	18,907	3,173	3,972	557	1,405
Mpulungu-Lac	1,995	862	452	939	671
Mombasa-road	12,415	31,366	29,122	36,556	48,834
Air	1	-	1	8	4
Dar-es-Salaam					
Isaka	-	26	36	-	-
 <b>Equipment</b>					
<b>product</b>	<b>5,497</b>	<b>6,876</b>	<b>10,049</b>	<b>11,257</b>	<b>11,385</b>
Dar-es-Salaam					
Kigoma	3,468	2,751	1,446	3,265	3,372
Mpulungu-Lac	68	244	173	534	665
Mombasa-road	975	1,713	5,599	5,198	5,128
Air	748	843	1,041	1,169	1,056
Dar-es-Salem					
Isaka	238	1,325	1,790	1,091	1,156

**Consumables**

products (lasting)	9,580	6,387	10,798	7,993	9,234
Dar-es-Salaam					
Kigoma	7,137	3,470	5,153	3,200	4,315
Mombasa-road	1,209	1,776	3,530	2,796	2,426
Air	1,167	1,047	1,252	1,604	1,147
Dar-es-Salaam					
Isaka	67	94	863	393	1,346

**Consumable**

products (non durable)	29,394	28,656	40,284	26,568	36,802
Dar-es-Salaam					
Kigoma	21,704	13,128	17,904	9,934	10,437
Mpulungu-Lac	1,224	3,795	6,368	7,914	10,149
Mombasa-road	5,678	11,116	14,700	8,395	15,276
Air	715	603	685	812	818
Dar-es-Salaam					
Isaka	73	14	627	236	122

According to the table it appears that there are two principal routes of import which are competing. The general remark is that the central corridor is progressively loosing cargo to the Northern Corridor. The latter is the main route for importing petroleum products and equipment. For other products, it can be seen that the competition is very strong. The result is that within four years the Central Corridor has lost a total cargo of 32,102 tons whereas the Northern Corridor has gained 60,189 tons.

table 12

Total import in tons					
	1980	1981	1982	1983	1984
Dar-es-Salaam - kigoma	90,834	54,718	58,524	52,093	57,898
Mpulungu-lac	21,145	23,381	29,808	27,747	49,006
Mombasa-road	30,460	63,879	82,995	85,432	90,649
Air	2,891	2,788	3,387	3,949	3,419
Dar-es-Salaam - Isaka	378	1,897	4,381	2,075	2,759
Others + import of neighbouring countries	15,581	17,370	21,939	20,571	21,559
Total	161,289	164,033	201,034	191,867	225,290

Despite the actual reputation of the central corridor, various economic studies have proved that it offers a comparative advantage to the northern Corridor (cheaper, nearer, only one transit country).

Indeed, it is accepted worldwide that rail transport is cheaper than road transport over long distances.

" Furthermore, conversely to the the rule of economics which stipulates that the transport /unit/tons/US dollars decreases as the distance increases, the

situation is reverse in the northern corridor due to many transit countries." (4)

In 1984 the difference in direct transport cost was estimated at between 150-160 US Dollars in favor of the central corridor taking into consideration five typical products. An assumption is made that if about 50,000 out of 90,000 tons of cargoes throughput for 1984 from the northern corridor were deviated to the central corridor the country would have saved 5 Million US Dollars. (3)

This statement gives some food for thought.

But, paradoxically, despite the high direct transport cost, the tendency is for the northern corridor to compete increasingly with the central corridor.

The reason according to various importers who were approached seem to be the following:

- More rotations in the northern corridor
- Only 2 transshipments in the northern corridor instead of 6 in the central corridor.
- Less risk of pilferage, damages and loss.

This shows that landlocked countries are mainly interested in the reduction of their indirect transports costs and the stabilization of the transit time.

In the following chapter, an analysis of the port will be made, but as the port is enclosed, its development is linked to many factors.

Therefore, this study will consider the port within its geographical, political and economical contexts.

Up to this level, more emphasis will be put on the central

corridor as well as the sub-regional trading routes which are the only routes which serve the port of Bujumbura.

The development and popularity of road transport in the Northern and Isaka corridor can be seen as a reaction to the unsatisfactory working condition of the central corridor as has been mentioned previously.

It is the author's humble view that these routes should not be considered as competitive but as complementary for the benefit of the whole country.

Therefore, this analysis is not to be looked at as an advertisement for the central corridor but rather as an attempt to measure the extent to which the port can participate in improving the national economy.

Table 6

Structural evolution of export products (quantity in tons)

	1983	%	1984	%	1985	%
	tons		tons		tons	
Primary products	29991	93.6	33367	89.2	39514	91.3
coffee	24835	77.5	29001	77.6	33918	78.3
cotton	1923	6.0	404	1.1	221	0.5
tea	2101	6.6	3073	8.2	4066	9.4
hides	649	2.0	425	1.1	589	1.4
others	483	1.5	464	1.2	720	1.7
Manufactured products	2064	6.4	4024	10.8	3758	8.7
white and fibre						
reinforced cement	840	2.6	513	1.4	302	0.7
beer	945	3.0	2449	6.6	310	0.7
cigarette	-	-	-	-	11	0.0
oxygen	19	0.1	10	0.0	1	-
metal work	121	-	-	-	-	-
cotton textile	58	0.2	-	-	-	-
bottles	-	-	516	1.4	2237	5.1
others	78	0.2	111	0.3	415	1.0
Other products						
non specified	2	0.0	3	0.0	1	0.0
Total	32057	100.0	37394	100.0	43273	100.0

Source : Custom and Central Bank

Table 7

Structural evolution of export (value in Million FBU)

	1983	%	1984	%	1985	%
Primary products	7289	97.3	11271	95.4	12547	94.8
coffee	6542	87.4	9930	84.1	11172	84.1
cotton	247	3.3	82	0.7	42	0.3
tea	228	3.0	864	7.3	712	5.4
hides	69	0.9	84	0.7	116	0.9
others	203	2.7	311	2.6	508	3.8
Manufactured products	195	2.6	541	4.5	717	5.5
white and fibre						
reinforced cement	59	0.6	40	0.3	25	0.2
beer	62	0.8	104	0.9	11	0.1
cigarette	-	-	-	-	8	0.1
oxygen	7	0.1	4	0.0	1	0.0
metal work	16	0.2	17	0.1	9	0.1
cotton textile	22	0.3	248	2.1	420	3.2
bottles	-	-	48	0.4	198	1.5
others	29	0.4	80	0.7	45	0.3
Other products						
non specified	10	0.1	19	0.1	16	0.1
Total	7494	100.0	11831	100.0	13280	100.0

Source: Custom and BRB. The figures of year 1985 are just a forecasting

## CHAPTER TWO

### ANALYSIS OF THE INLAND PORT OF BUJUMBURA

#### Role of a port

A wide definition of ports is provided in the following quotation made by an Alderman from the Port of Antwerp:

"The task of promoting the interests of the port knows almost no limitation in time or space. Its aim is to save the prosperity and welfare of our regional or national community and beyond our borders to make a contribution to improving the quality of life." (5)

This underlines the European philosophy which regards the port as part of the transport infrastructure of the country. This criterion applies to many other countries throughout the world, while in the UK and the USA particularly the ports are viewed as individual commercial enterprises which should conform with the normal financial criteria.

Ports exist as an important and fundamental part of the overall pattern of trade and transport.

The four principal roles of a port can be summarized as follows:

- Provision of shelter from the elements.

This arises when, due to heavy seas and prevailing storm conditions, ships take shelter in the environment of the port and thereby seek safe anchorage; However it is not an indispensable condition.

- Cargo and passenger handling.

This embraces victualling, stores, bunkering, ship



repair and so on.

- A base for industrial development.

This involves the provision of industry and its infrastructure to facilitate the development of trade passing through the port.

- A terminal forming part of a transport chain.

Such an interchange point links the shipping service with other transport modes to provide an overall international trade distribution network, often under the combined transport operation concept.

However according to the features given by Jean Georges Baudelaire a distinction may be made between those ports serving the international trade ie. receiving foreign ships and those which constitutes only a link in their domestic transport chain because they are not facing the same situations. The Administrative problems connected with the operations of the latter are of a much simpler nature.

Further on, the same author states that the criteria of interport competition is an element that can be looked upon as a means of identifying seaports as compared with those facilities that are only a link in a domestic transport system. Competition occurs when a given hinterland can be served by more than one port, each port vying with others, which may belong to different countries, to offer better and cheapest services. (6)

Referring to this distinction, the question can be raised whether the port of Bujumbura falls in the category of an international port or is to be simply considered as a link in the domestic transport chain ?

The point will be enlarged in the following chapters.

## Particular situation of the port of Bujumbura

### History

The port of Bujumbura is the only commercial port for the country. It is situated in the North-East part of the lake Tanganyika. Despite the landlocked state of the country, the inland port of Bujumbura had existed for years. Due to its geographical position in the region, the port was created by the Belgians for serving the whole region (Burundi, Rwanda and East of Zaire). The three countries were under Belgium's trusteeship.

In 1935, the port of Bujumbura was conceded to a Belgian company CFL (Compagnie des Chemins de fer du Congo Supérieur aux Grands Lacs Africains) by a convention of concession of 21 March 1932 between CFL and the colony which was interpreted in the text as Rwanda-Urundi.(7)

In 1959, the port was extended; a new quay was built and a piece of land of 30 m in breadth was granted to the CFL.(8).

On 12 September 1967, the government revoked the concession and established a new society called "Exploitation du Port de Bujumbura" (EPB).

In return, the government agreed to pay an amount for indemnity to CGL (Compagnie de Grands Lacs). The statutory life of the society was declared 30 years from the signatory date of the convention, 12 September 1967.

Although there are other shareholders including government and private enterprise, the Belgium's society CGL retains the largest share so that it supervises the EPB through the managers of its shipping company ARNOLAC ( Armement

Nord du Lac) the biggest shipping company in the country.

Present situation of the port (see Appendix II: The layout of the Port of Bujumbura)

#### i) Infrastructure

The port disposes the following handling facilities

- quay of 450 m for general cargo
- quay for container of 120 m
- two jetties which protect the port against the heavy swell and serve as berth as well.

The Northern jetty of 260 m serves as a petroleum port whereas the Southern jetty which is 110 m in length is used as a passenger quay.

The inner basin can accept vessels up to 4 m maximum draught. As we move further from the inner basin, the depth of the lake increases.

But due to the tendency of degradation in lake level, the consulting bureau OCCR (Organisation et Controle Conception et Realisation) recommended a bathymetry study in the area of the access channel and have suggested that in the future the draught of new buildings should be the same as that of the largest existing user.

In matters of navigational aids the port disposes of only one lighthouse to the entrance of the access channel.

#### ii) Superstructure and handling equipment

Regarding the superstructure the port of Bujumbura is very well equipped. Beside the open storage area, the port disposes of 4 warehouses with a capacity of 4000 square meters each, two of which are exclusively reserved for coffee storage.

The total handling capacity of the port is 400.000 tons/year, which has never been reached.

As a matter of interest, in 1986 the cargo throughput in the port was satisfactory with a total traffic of 224.712 tons, representing only 56% of the total port capacity. The port disposes of a container terminal for 200 TEU. Concerning the handling equipment, the port is equipped as follows: - 4 electric cranes on rail of a capacity of either 2,5

tons at 36 m or 5 tons at 18 m.

- 1 derrick crane of 30 tons capacity at 16 m or 50 tons capacity at 12 m.
- 4 mobile crane of 2,5 tons capacity.
- 4 forklifts, 2 Caterpillars and 2 Toyota of 2,5 tons capacity each.
- 2 truck cranes of 3 tons capacity each.
- 1 front loader for TEU.

The port of Bujumbura has a workshop which seems to be adequately equipped according to the head of the workshop. Its main task consists of repairs and maintenance of the superstructure and handling equipment of the port.

In order to improve the efficiency of the port, services are offered to the shipping companies especially for the maintenance of their engines.

When there is a lack of spare parts, the chief of the workshop has the choice of three alternatives;

- 1-manufacture them in the workshop
- 2- buy them on the local market if any
- 3- order them from Europe

It is however not always easy to find spare parts for the equipment on the actual market, as they are out-dated.

In order to be more efficient, the workshop needs to be equipped with the following equipment:

- a large capacity lathe
- a milling machine
- and a press of over 100 tons capacity.

## Port structure, Organisation, Management and Operations

### i) Organisation

The organization chart of the port is very ambiguous and leads to confusion. The EPB has existed now for 22 years without its separate organization structure. One common structure exists for the Belgium Shipping Company ARNOLAC and EPB, because the two societies are governed by the same company CGL. Through the existing chart, it is very hard for an outsider to know which services belong to which entity. It is time for the EPB to have its own structure because it cannot improve if its areas of responsibility are not clearly delineated. Otherwise it is rather imperative for the port to be provided with its own organisation chart especially for the time being where the transfer of ownership from ARNOLAC is under negotiation. A further discussion on the proposed structure will be given in chapter 3.

### ii) Management of the port of Bujumbura

As already mentioned, the port of Bujumbura is managed under concession between a private Belgium company (Compagnie des Grands Lacs) and the Government of Burundi. The terms of the concession, which is valid for 30 years, are found in an Agreement consisting of 10 Articles, dated 12 September, 1967.

After the deadline of 30 April, 1997, all superstructure and equipment will revert to government ownership. (art. 8) The Government can assume ownership of the port at anytime but this intention must be communicated one year in advance and on condition that the Government pays indemnities corresponding to the real value of the superstructure -paying off.(art.8) However if the society is any way deficient, the convention may be unilaterally broken by the Government without any indemnification. (art10)

The obligation of the two contractors are defined in art.3 of the Agreement.

The Society CGL is in charge of the infrastructure maintenance which comprises quays, mooring areas, drainage work, earth platforms, roadways, fences...

The Society is also in charge of the maintenance of the superstructure, its renewal and exploitation. They can be requested to purchase new equipment in accordance with national traffic requirements by the Ministry of Transports.

The maintenance and/or widening of the port access, resurfacing of aprons and maritime marks fall within Government's responsibility.

The Society enjoys a monopoly of the following:

- handling operations
- storage
- delivery of goods
- the management of warehouses
- goods custody (art.4)

The Port Statute contains all the regulations to govern its functioning. These include:

- 1- Denomination - Head Office - Duration
  - 2- Capital - Shares - Contributions - Bond
  - 3- Administration - Management - Superintendence
  - 4- Share holders - General Assembly
  - 5- Inventory - Balance Sheet - Sharing out profit
  - 6- Winding-up - Liquidation
  - 7- Transitory arrangements
- and with a list of paying off the 4.750 bonds which the present Society EPB owes to the Company CGL in accordance with art.6 of the statute.

The more salient articles will be commented on later on.

The Board of Directors is the supreme organ, composed of at least three members who may or may not be shareholders. They are appointed by the General Assembly. Half of these must be either nationals or residents of Burundi.

The President and Assistant President are appointed by the General Assembly, according to the provisions of art.1 of the convention of concession.

The representative of the Government participates in meetings of the Board of Directors as an observer. It is the author's view that as the Government is the largest investor in the port, its representative should have been given more authority.

The Board of Directors has full administration and control rights for the Society. Rights which are not properly exercised by the General Assembly, pass to the Board of Directors.

As the Board of Directors is the organ which actually manages the port, attention should be paid to its

composition and the background of its members in order to ensure port effectiveness.

The Administrative Director of the port and his assistants are appointed by the Board of Directors. They are responsible for the implementation of the policy of the Board of Directors and for the management of the port. The author would like to emphasize here that the Administrative Director of the port and his assistant are also the managers of the biggest Belgium Shipping Company ARNOLAC.

The issue which can be raised here is whether it is a good policy to have the same managers for two different companies.

Some argue that the dual management decreases the running costs for the EPB as the main departments and personnel are the same. Since ARNOLAC was the only shipping company in the country there was no problem with competition.

It is however the point of view of the author that this joint management can hamper the development of the port. It has been noticed in various reports that the shipping company has not paid adequate attention to the port's superstructure, equipment and infrastructure maintenance. At present, as there are more shipping companies, it will probably be more difficult for them to give equal treatment to their competitors.

The management of a port by a shipping company has been disapproved by a renowned author Jean Georges Baudelaire,

" Ports should not be run by a shipping company, as it is



supposedly the case in the Soviet Union. Public ports are expected to ensure equality of treatment to all their customers. Such a condition is certainly most difficult to achieve if the port policy is entirely in the hands of a major user of whom it is to be expected that, consciously or unconsciously, he will not be his competitors." (9)

To sum up, the port of Bujumbura, EPB does not suffer from obstructions created by the Government as the statute of the Society and the convention of concession both give wide freedom to the port managers. That is not ideal for a port under monopolistic conditions. Stringent controls should be exercised with respect to operations and charges over the organization providing the relevant service.

### iii) Personnel Management

All employees of the port, administrative staff as well as dockers are governed without distinction by the so-called "Reglement d'Entreprise" in conformity with the "Ordonnance Ministrielle No 630/134 du 4 juillet 1978" which stipulates that all employers with at least 15 employees are obliged to have an internal regulation for the enterprise. (art.1 of the above ordinance.)

These internal regulations are written in a form prescribed by the ordinance.

It contains the following compulsory sections:

- Technical organization of work;
- Disciplinary regime;
- Hygiene and safety;
- Methods of payment (art.3 of the Reglement d'Entreprise)

The objectives of this "Reglement" are firstly to clarify

and complete the "Code Du Travail Du Burundi" in matters regarding the obligations of the contractors. Secondly, they are to ensure permanent contact between employer and employees in order to allow the employees to present their "desiderata" for the benefit of the enterprise. (art.276 para.1, 2 code du travail du Burundi)

The Council of the enterprise holds its meetings at least once a month. The employer or his representative must chair the meeting, but under special circumstances it can be convened when the majority of the members so desire. (art.277 du code du travail du Burundi)

A report is made of each meeting and a copy is sent to the Inspector of Works while the original is kept in a special file by the employer under permanent control of the Inspection of Works. (art.279 du code du travail du Burundi)

As distinct from other countries, the dockers do not have a special regime, which is justified by the low traffic in the port, the working conditions and the nature of work they perform. For the time being, they are under the same regulations as other employees in the private sector.

The port employees are subdivided into categories as required by the "Code Du Travail Du Burundi" (O.M No 630/137 du 28 juin 1977)

This Ordinance fixes six categories of workers for the private sector and applies to the port, however due to internal conditions one extra category has been created, comprising the heads of different sections.

The "Ordonnance Ministrielle No 630/138 du 28 juin 1977

(66-d-262-309) (10) determines the minimum wage-earnings for professional categories, (in the original text: salaires minima par categorie professionnelle) the living allowance per category and finally family allowances which invariably consist of 300 FBU per wife and 150 FBU per child.

It is noteworthy that in some regulations, no consideration is given to the reverse situation where a woman works instead of her husband.

The same situation is found again in the internal regulation of the port in chapter regarding hygiene and safety on art.68 and on (soins de sante) health where the word family is interpreted only as a wife and children. A statement concerning men should be added in order to have a true notion of family.

#### iv) Port Operation

The port of Bujumbura operates only during the day and with one shift. The common working hours are the following:

7 hours to 12 hours

14 hours to 17 hours

from Monday to Friday and from

7 hours to 14 hours on Saturday.

Break time is of 2 hours duration. However, this schedule is flexible and changes according to the volume of traffic in the port, the availability of manpower and machinery.

Therefore the gangs are assigned every evening for work on the following day.

When there is more traffic, overtime is conducted during

the 2 hours break time, and the dockers only rest for half of an hour. For the time being, the system works.

As mentioned before, the port has a monopoly on all operational activities, handling, storage and towage. According to the port regulations no reference is made concerning pilotage.

It is very well known that competition is the best way to attain good results but it is quite impossible for the port of Bujumbura to delegate some of its functions to other companies for the simple reason that there is not enough traffic to attract private entrepreneurs.

From the assumption given by Jean-Georges Baudelaire, we can say that only ports with a cargo throughput of 1.200.000 tons can afford to have 4 competitors, assuming that one of them handles about 300.000 tons, below which minimum an independent entrepreneur could not operate satisfactorily.(11)

The port of Bujumbura handles less than 300.000 tons/year so the monopoly is justified because even if the handling activity was given to one company, this company would operate in monopolistic conditions.

From that point, we can conclude that the handling activities should remain under the port.

Moreover it contributes appreciable revenues for the port in order to meet its expenses.

In order to perform its duties, the port uses dockers. Their number changes according to the traffic on the port. But, according to the estimate of the head of operational department the total number is around 300 subdivided into

three categories.

- 150 permanents
- 90 daily workers
- 60 temporary workers (casuals)

The number of daily workers depends on the daily traffic and the number required is decided the day before.

Temporary workers are especially hired for a period of 3 to 4 months each year from 15 June to October, which corresponds to the export period for coffee which is Burundi's main source of foreign revenue earnings as explained in the first chapter.

Therefore coffee handling does not suffer from any delay in delivery. That is why the port has obtained special permission from the Ministry of Works to have temporary workers over a period which normally exceeds that provided under "Code Du Travail".

In fact, normally, according to the latter, a daily or temporary worker becomes permanent when his, working hours, calculated over 3 month-period, total 12 days/month for the same employer.

Likewise, when calculated over the period of one year, and they total 8 days/month for the same employer.

#### a) Working system

For day to day work, dockers are divided into two categories: Permanent and daily workers.

The former is responsible for loading and unloading to and from ships, to or from the stocking area or warehouses.

The permanent force consists of 6 gangs composed of 24 persons each.

The daily workers whose numbers depends on the daily traffic, are normally composed of 6 gangs of 15 persons

and they deal with the loading of lorries and trucks.

The port of Bujumbura still uses a high density of man power. All stacking activities are manual and forklifts are used for the displacement of goods.

The average productivity is situated between 12-13 ton/hour/gang for heavy lifts and 15 tons/hour/gang for bagged goods.

In order to maintain productivities the operational department has set up a system of daily evaluation which consists of a worksheet with the following 7 items:

- gangs ,barges/trucks ,nature of product ,tonnage, start, end, comments.

The actual organization system is based on quota. Every morning each gang has a quota of tonnage to accomplish/day. For example for bagged goods 150 tons/gang/shift/day have to be worked. If a gang finishes the given work before the time required, and if they are asked to do an other job ,the latter is accordingly paid as extra-work.

Conversely, if at the end of the day a gang does not reach its quota ,an investigation is made in order to determine where the deficiency lies.

Series of measures are then taken from the changing of foreman to the dismissal of some members of the gang.

For the time being, the port suffers some operational problem:

- The quay walls are in very bad conditions.
- The apron is full of holes in different places, this

affects the efficiency of the port:

On one hand ,they damage the handling equipment mainly forklifts, and on the other, they affect the productivity of the port in the sense that they hamper movements.

- Although the port handles about half of its potential capacity the apron is very often congested because it does not operate as initially planned.  
In fact all ships, barges, load or discharge there.  
At the same time it constitutes the stocking area where lorries and trucks load or unload.

All these operations hamper the throughput of cargoes. Actually, it was initially planned that the delivery of goods to importers would take place through the outdoor of the hangars in order to avoid congestion. But due to lack of strong fencing, all operations are concentrated at the apron in order to minimize pilferage.

- The port of Bujumbura has been accused of developing extensively rather than intensively. The port managers have to be aware of this, and must make better use of the distribution of both labour force and plant in order to be more efficient.

It has been proved that a concentration of labour force and plant force are more productive and always a paying proposition. Examples given by Jean-Georges Baudelaire illustrate the usefulness of this principle very well.

- " Assume there are two identical bulk cargo berths with a handling capacity of 1000 tons/hour each and that the handling plant can be made to work on a simple berth with a capacity of 2,000 tons/hour. If two ships with an

identical amount of cargo, say "C" tons, call at approximately the same time, there are two possibilities: Either allocate a berth to each ship, the total port time will then be:

$$2 * \frac{C}{1,000} \text{ ships hours}$$

or serve the two ships in succession with the full handling capacity of 2,000 tons/hour, in which case the total port time would be:

$$\begin{aligned} \text{Handling of first ship} &= \frac{C}{1,000} \text{ hours} \\ \text{Second ship waiting} &= \frac{C}{1,000} \text{ hours} \\ \text{Handling of second ship} &= \frac{C}{2,000} \text{ hours} \\ \text{Total port time} &= \frac{3}{2} * \frac{C}{1,000} \text{ hours} \end{aligned}$$

The second alternative saves 25% of the total port time required by the first.

Similar considerations do apply to the deployment of the labour force.

Assume again there are 2 break bulk general cargo ships, each with 4 hatches to be worked simultaneously.

Assume also that each hatch requires the same number of gang-shifts, say G expressed in tons, to be cleared and that 4 gangs only are available, with a standard



throughput T per gang shift.

If the available gangs are divided equally between the 2 ships, the total ship time expressed as a number of shifts will be:

$$\frac{G}{4} \times \frac{1}{T}$$

If all the gangs are allocated in succession, the total ship time expressed in the same manner will be:

$$\frac{G}{3} \times \frac{1}{T}$$

which gives again a reduction of 25 %. " (12)

- The storage in the warehouses are made up to man height level. From 1.50 m upwards the storage area is not optimized.

Palletisation in the warehouses may be the solution mainly for the stocking of coffee which remains in the warehouses for a certain period.

The actual system used does not permit the passage of fresh air and after a period of time, the quality can be affected.

But palletisation in warehouses requires some investments from the port.

- Dangerous goods as well as some other goods: cement, break bulk, fertilizer, chemical products...(13) are handled in the port but are not admitted in the public warehouses.

This is a good policy for fighting dwell time if respected. Otherwise it can be dangerous for the port to store dangerous goods awaiting delivery time or public sale especially in cases where such waiting time is excessive.

#### b) Responsibilities for handling and storage

Ports are responsible for any losses and damages to goods after the signature of a document called "Recu sous palant" by both parties ie. port's agents and shipowners' agent.

Another document called "Proces-Verbal de Constat" exists in cases where damages or losses arise later. This document is then signed by Port's agents and importer's agents.

### Port pricing

#### i) General Concept

A port tariff is a reward paid to the port for rendering a service. It may be for the berthing of a ship, towage, discharging of cargoes, a turn out of a container etc...

The idea behind a port's pricing is based upon two concepts:

Shall a port make a profit and be self-supporting ?

Broadly speaking there are two opposite attitudes concerning these theories.

Firstly, there are some authors who argue that a port is a social industry and therefore should not make any profit. Its economical role is appreciated not in a narrow angle

of the port undertakings but from a regional an even a national point of view.

And then there are others who consider the port as an industry or a commercial enterprise, where the port charges should be cost-related, making a profit and being self-supporting as other enterprises.

However, many ports around the world are considered as social industries, they are subsidized by the Government in order to keep their rates at an acceptable level for the users and to allow them to be competitive. The port pricing policy of a country depends on the attitude which the Government adopts.

The author's task is not to recommend one of the two theories but rather to define the purpose of port pricing and then, it is up to the Government to choose on of those theories depending on the country's socio-political and economical situation.

What shall be the purpose of port pricing ?  
According to Alan E. Branch:

" The port authority must determine the cost of the service provided and formulate a tariff accordingly based on both direct and indirect cost plus an element for profit.

Direct cost would embrace dock and day-to-day maintenance, while indirect cost includes depreciation, loan interest, administration, and so on." (14)

According to public ports it has been pointed out by Jean-Georges Baudelaire that:

" The absence of dividends, should not obscure the necessity to pay attention to the return on the capital invested in order to assess to what extent the resources allocated to investment have been properly utilized." (15)

In general even those ports considered as social industries should at least cover direct cost and provide a major contribution to indirect cost.

A guideline in setting a port's tariff is to ensure that its expenses are equally shared by all users with the exception of those countries which practice flag discrimination. However, some of the factors which influence port pricing are its geographical position, its size, the nature of cargoes handled, transport mode, value of the goods, the trade in which cargoes originate, exchange rate variations, agreements with other port authorities, statutory controls, relations with shippers' councils and trade associations, case of handling and stowage, market pricing, subsidies etc.

#### ii) Categories of port charges

- Ship's dues which are generally charged to shipowner / charterer

Usually, ships dues are calculated according to the amount of cargo on the ship if the latter is lower than the net registered tonnage.

Revenues from dues on ships, consisting of harbor, dock, quay, river conservancy etc. serve to cover the cost of dredging, navigational aids etc...

- Cargo dues are normally paid by importers/exporters. The revenue collected has to cover the cost of providing

and maintaining the port facilities. (berths, transit sheds, handling equipment, warehouses etc.)

The charges made are based on units, weights, volumes or numbers, according to the nature/type of the cargoes.

- Passengers' dues: These are paid by the shipowners/ charterers for the facilities provided for passengers.
- Some other forms of charges exist depending on the services rendered by the port (cargo palletizing services, fire service, weighing bridge, rental dues etc...)

After a brief exposure to port pricing theory, its purposes and main components, the author would like to go back to the port of Bujumbura and analyse its port pricing policy

iii) Port of Bujumbura and its port pricing policy

The Government, in securing its vested interest in the port controls the port tariff through the Ministry of Trade and Industry.

" The port tariffs are based on the expectation that revenue collected will cover expenditures including the maintenance and operating costs, overhead expenses, depreciation of superstructure, financial cost, financial depreciation of shares up to 15% of its face value every 15th of April from 1983.

Finally a profit of 6% to be shared among the shareholders on the amount no-depreciated of their shares .

The tariff can be subjected to modifications every six months. Whenever the overall economic situation justifies the new expectation of revenue and expenditure." (art. 8 of the Convention of Concession).

Referring to the above, the tariff of the port of Bujumbura has not changed since 1979, as shown in the "Ordonnance 550/46 du 9 mars 1979", which set the charges for following:

- Transit and handling of cargoes;
- Remunerations for derrick crane;
- Special charges for public holidays;
- Towage
- Ship's dues (berthing)

The "Ordonnance Ministrielle du 31 October 1980" defines the tariff for charging trucks in the Port of Bujumbura.

Relating to tariffs in the Port of Bujumbura, nearly all charges are levied on the cargo owners except the berthing dues which are levied on the shipowners.

The main commodities handled in the port are general cargoes and break bulk. All these cargoes have been classified into 13 categories according to their nature.

This classification of cargoes dates as far back as 1932. Besides this classification, there are some other political considerations, whereas cargoes such as coffee and fertilizers are not charged like other commodities within the same class.

These benefit from a favorable tariff of 250 FBU/ton against the normal 498 FBU/ton.

In order to discourage the dwell time of the goods on the apron and in the warehouses, the port managers have increased the custody dues which varies according to the class of cargoes.

Normally, cargoes can remain for 7 days in the port free of charge, but from the 8th and 15th day they are charged at the following rates:

- Class 1 to 6 37.5 FBU/day
- Class 7 to 13 17.0 FBU/day.

Beyond the 15th day, a dissuasive tariff of 400 FBU/day is applied.

In order to attract more transit cargoes, favorable custody dues are given to transit goods,

- The first 15 days are free of charge
  - From the 15th to the 30th day, normal tariff is applied.
- A penalization tariff is levied after the 30th day.

To sum up, the port charges constitute an important part of revenue in the Port of Bujumbura. Indeed it constituted 85.08% of all port earnings in 1985 and 83.8% in 1986. Of these percentages, the handling charges constitute a great part, 58.1% in 1985 and 55.7% in 1986.

Another major source of revenue in the Port of Bujumbura is the dues on custody which constituted of 20.1% in 1985 and 22.12% in 1986.

The other minor sources of takings are given below according to their rank in importance.

- Reconditioning
- Rental dues
- Towage
- Ships' dues
- Miscellaneous
- Commission on passengers' tickets.

### Shipping activities

#### i) National Fleet

Burundi national fleet consists only of one small container vessel of 300 tons or 14 TEU which is operated by a Belgium shipping company.

Prior to 1984 the Belgium shipping company had monopolistic power. After that period, the industry became oligopolistic with the entry of new companies namely: BATRALAC, SOTRALAC and the TANGANYIKA COMPANY. The oligopolistic structure is however characterized by the Belgian Company being the leading firm.

The Belgian Shipping Company has a total net registered tonnage of 4,511 tons which represents approximately 60.7%



tonnage of 4,511 tons which represents approximately 60.7% of the country's total net registered tonnage. It has 19 vessels composed of tug vessels, self-propelled vessels, general cargo barges and tanker barges. The barge system recently acquired has resulted in considerable saving in fuel consumption. Generally this company has been criticized for the obsolete conditions of its vessels i.e. the average age of vessels is 40 years. The problem of obsolescence is further complicated by the capital specificity of its ships which cannot be easily converted or adapted to the new method of stowage (palletization, containerization...)

The 3 shipping companies mentioned above, together with the Government's vessel retain around 2,910 tons which represent 40% of the total net registered tonnage. Ship building is encouraged by Government via incentives to ship owners. Government incentives take the form of tax exemptions.

#### ii) Foreign vessels

Presently only Zairian and Tanzanian 's vessels call in the Port of Bujumbura. The former carry general cargoes and the latter both general cargoes and passengers. The two Tanzanian vessels have a specific schedule calling twice per week. The statistical analysis reveals the following:

Contribution in % of Zairian and Tanzanian fleet in Port of Bujumbura traffic in 1986.

Zaire 11.45%

Tanzania 2.56% (Source EPB).

Combined import and export traffic throughput in the Port of Bujumbura.

#### Export (in tons)

The trend of traffic has been as follows:

1974	1975	1976	1977	1978	1979	1980
32,156	31,198	28,078	21,808	33,177	36288	31,491
1981	1982	1983	1984	1985	1986	
34,861	29,811	30,384	33,880	36,515	39,195	

(Source EPB)

The Table shows that the export traffic in Burundi has been relatively stable.

The stability of the export traffic is indicative of the low rate of industrial growth.

#### Import (in tons)

The cargoes import are of 3 categories according to their port of origin/transit.

Table 14

Import traffic from Port of Kigoma (Tanzania) in tons

1974	1975	1976	1977	1978	1979	1980
93,824	95,324	90,521	113,646	110,199	86,632	89,390
1981	1982	1983	1984	1985	1986	
60,900	67,575	68,018	71,693	101,142	91,023	

Source: EPB.

This table indicates the relative importance of this route ie. (cheapest, most direct route to overseas trade). This is important for imported commodities coming from Europe. The annual fluctuation is associated with the working conditions of the route (see Chapter 1, main routes of import-export for more details.) When compared with table..., the tonnage is much higher this an indication of the extent to which the economy is dependent on imported commodities.

Table 15

Import traffic from Port of Mpulungu (Zambia) in tons

1974	1975	1976	1977	1978	1979	1980
nil	nil	nil	9,521	10,288	13,421	15,901
1981	1982	1983	1984	1985	1986	
26,589	27,600	27,748	41,288	62,616	65,822	

Source EPB

This table indicates a considerable expansion due to the thrust towards economic integration.

Table 16

Import traffic from the Ports of Kalemie and Kabimba  
(Zaire).

1974	1975	1976	1977	1978	1979	1980
19,258	8,059	10,402	2400	4,867	8,996	13,065
1981	1982	1983	1984	1985	1986	
19,615	18,874	20,277	17,051	16,129	26,007	

Source EPB.

The table shows that this route is not very important in the overall traffic in the port.

Table 17

Total Imports

1974	113,082		
1975	103,383		
1976	100,923		
1977	125,567		
1978	125,354		
1979	109,049		
1980	118,356	*	617
1981	107,104	*	361
1982	114,049	*	419
1983	116,043	*	436
1984	130,032	*	495
1985	179,887	*	468
1986	181,852	*	329

\* containers handled in the port in tons.

Source EPB

A comparison of the above table, with the export table, depicts shows that the import tonnage is much higher. This is an indication of the extent to which the economy is dependent on imported commodities.

It can also be seen that the greater part of Burundi cargoes pass through the Port of Kigoma. Nonetheless, the growing importance of the Port of Mpulungu has to be pointed out. The traffic which was non-existent in the middle of seventies has increased dramatically in the last few years. Currently, it is considered as a considerable source of supply for Burundi.

## CHAPTER THREE

### SHORT-TERM IMPROVEMENT PROPOSALS IN THE PORT OF BUJUMBURA

The inland port of Bujumbura should be aware of its potential role in the development of the country's economy. If the port renders fast and efficient services of a high standard, it participate in minimizing transportation cost. Although the port of Bujumbura has a fixed hinterland, it can attract more transit cargoes for Rwanda and the Southern part of Africa, through the trading route Mpulungu -Bujumbura. Proper management of the port will also enable its Managers to assess adequate current and future operations and to fulfill their obligations more efficiently.

#### Port Organization concept.

A port cannot exist in a vacuum, being a nodal point in the transport chain. Its organization will depend on what kind of services it provides, its size, its location from the sea, the kind of cargoes it handles, the type of vessels which visit the port and last, but not least, its institutional forms ; private, public, municipal, local authorities autonomous etc. Each of which will have a direct influence on its composition, its responsibilities, duties and right.

All these factors should therefore be reflected in the organization. As such, structures will vary from country to country even from port to port within the same country due to the fact that no port has exactly the same features as an other. A good port organization should pay close attention to the evolution of its overall traffic demands.

Overestimation of the port supply leads to bad performance which can be expressed in terms of less efficiency. This problem may occur with ports of developing countries which organize themselves in the same way as a ports of an industrialized country.

Nevertheless it is always easier to expand a port organization than to reduce it. One recommendation for a port facing boom traffic, is for its organization to be revised every five years. The same recommendation applies whenever the business environment changes, or a major investment is made. This will facilitate adaptation to new situations.

The objective of the port organization is to effective services at low cost. The structure of a port should be will be designed to permit swift decision making. Therefore the line of responsibility should be precise and self evident with each person having a well defined job specification.

#### **Proposed Organisation of the Inland Port of Bujumbura**

Before going deeply into these matters, the author would like to emphasize the present status of the port. According to the UNCTAD Handbook for Planners in Developing Countries, the port of Bujumbura is classified with those which are still in "traditional phase" which is defined as follows: " A group of general purpose berths handling a mixture of break bulk general cargo plus bulk shipments of commodities in packaged form (e.g. part loads of wheat in bags or of oil in drums) or in loose form that are packaged in the hold" (16).

Consequently its organization should relate to the real existing environment. Some departments which exist in many ports will not have any "raison d'être" in the small port of Bujumbura. For example the Harbor Master's tasks can be carried out by Marine Services within the Port Operation Department. In addition, instead of having a Planning Department which will put a heavy burden on the port's budget, a Statistical Unit can be created, which will report directly to the General Director. A close relationship should exist between this proposed main Statistical Unit and the statistical section of the operational department. All important and essential information on the port would be found there. The planning will continue to be done at the National level. The port statistical tasks will be concentrated on the collection of all information mainly for improvement of its performance.

The port organization structure will embody the following:

a) The Board of Directors who will be responsible for the elaboration of port policies and for the supervision of the overall conduct of port affairs. Such a Board should include

a representative of Government. The Board members will be appointed according to the Statute of the Society. (EPB).

b) The Port Director is to be appointed by the Board and must have the following qualifications: experience in international transport, port affairs and shipping matter. He should also be a person of outstanding ability, a good administrator, with good personnel relations. The author recommends that he should be a member of the Board or at least attend all regular meetings.



The Port Director should be responsible for selecting key personnel and for establishing their zone of responsibilities. Their nomination should have the approval of the Board. He should also be responsible for the port management, administration and operation and should be accountable for its efficiency .

#### c) Port Departments

Beside the Secretariat and the Statistical Unit which would be linked directly to the Director General, the port should have five departments namely: administration, operation and traffic, finance, engineering and personnel.

The Secretariat should be responsible for coordinating work between the Board and the Director General and for performing all clerical work at the port.

The Statistical Unit, for the moment, will not count as a department but as a section directly linked to the Director General. At the beginning it should operate manually and after procedures have been well established, the port should be equipped with an independent data base system. This section would be very helpful, and its guiding idea would be the motto "know your port".

Some indications will now be given on the areas of responsibility of the five departments.

i) The Operational and Traffic Department: This department should be in charge of the following:

- traffic regulation
- berth allocation
- Radio communication
- pollution prevention

- security (dangerous goods)
- navigational aid
- port sanitation
- towage
- fire fighting ashore/afloat
- cargo handling
- handling equipment
- documentation
- import/export/delivery
- superintendence
- warehouse
- stocking area
- statistics

ii) Finance Department:

- elaboration of budget and its implementation
- recovering
- payment
- accountancy
- finance management
- audit

iii) Engineering Department:

- dredging
- workshop
- maintenance of all physical properties
- proper functioning of all equipment including electrical equipment, water supply, repairs, replacement, rolling stock, inventories of port facilities.

The Manager of the Engineering Department should discuss with the Port Director:

- a) the best use and care of equipment, with its replacement, improvement and maintenance.
- b) the submission of periodic inventory records and operating and maintenance cost record of all equipment.
- c) proposals and estimated budgets for recommended improvements additions, repairs...
- d) the condition of the docks, warehouses and open area

iv) Administration department:

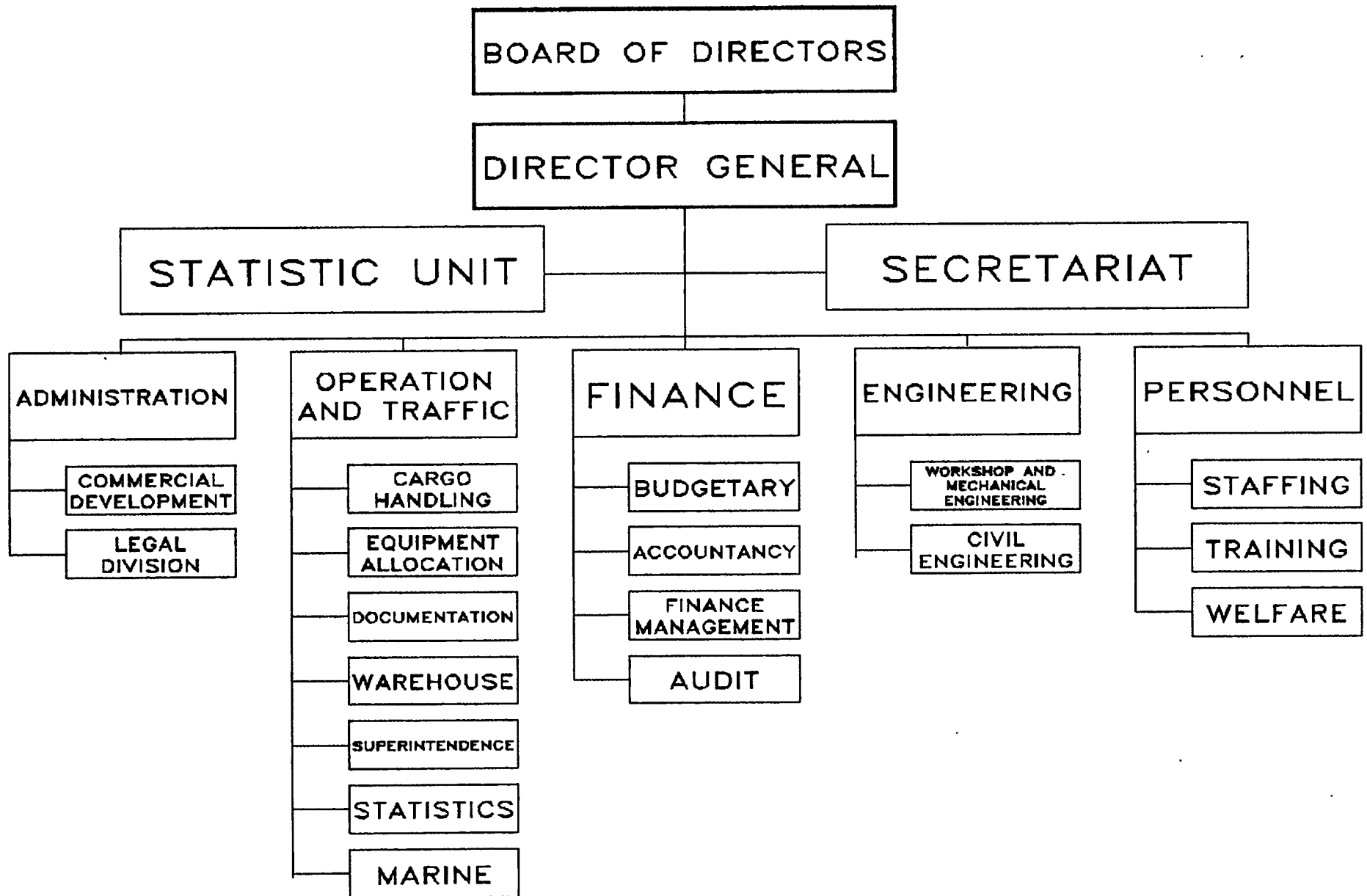
This Department will be responsible for all matters relating to the port with two division: commercial development division and legal division.

- Commercial Development Division;
  - purchasing/stores/supply/inventories.
  - port tariff and charges.
  - liaison with port users.
- Legal Division;
  - claims and Insurance and all matters pertaining to law.

v) Personnel department:

- staffing
- training
- welfare.

# PROPOSED ORGANISATION CHART FOR THE PORT OF BUJUMBURA



## The role of infrastructure and handling equipment in the improvement of port efficiency

As has pointed out in Chapter two the port managers have been criticized for less interest in maintaining infrastructure superstructure and handling equipment. The author may say that both the government and the society "CGL" are to blame. They have defaulted their respective obligations, confined in art. 3 of the " convention de concession." The result has been that the port is now facing operational difficulties. .

However, to remedy this situation a cash programmer for the refurbishing of the port of Bujumbura was started from June 1988 for a period of approximately 18 months. It consists of two parts. The first refers to the improvement of the existing facilities and comprises the following:

- the strengthening of the northern and southern jetties;
- the flooring of the quays and quays apron;
- the construction of truck way within the port area  
which will be linked to the "Boulevard du 1er Novembre";
- the restoration of the platform and existing buildings in the ancient port in order to allocate them to customs storage; and finally,
- the improvement of the lighting and fire fighting systems.

The second part concerns the setting up of the new building and facilities:

- an administrative building: customs, immigration, port, waterways department, office for forwarding agents.
- passenger facilities: departure/arrival/lounge, custom office, immigration,;
- a strong fence to optimize Port operation by separating

its operational activities as originally planned. The handling operations and stacking will concentrate around the dock whereas, cargo delivery will take place from the outdoor of the warehouses. At the same time, pilferage will be reduced; and finally,

- the acquisition of equipment (weighing-bridge, front-loader for containers...)

All these programmes have been made possible with the loan of 800,000,000 F.F. (Francs Francais) contracted by the government from "La Caisse Centrale de cooperation Economique"

In the author's point of view, the Port Manager has to institute a clear maintenance policy in order to keep all these facilities in working condition.

It is a fact that the success of cargo handling operations is dependent on the mechanical equipment and good conditions of the facilities.

With reference to the British Standard 3811, 1964 the maintenance has been defined as:

" Work undertaken to keep or restore every facilities to an acceptable standard at an acceptable cost ".

The same British Standard has also the following definitions, most of which are relevant to this outline of maintenance policy:

- " Planned maintenance work organized and carried out with forethought, central and records "
- " Preventive maintenance. Work intended to prevent the failure of a facility "
- " Corrective maintenance. Preventive maintenance implemented with facilities still in service "

- " Shutdown maintenance. Work only implemented when the facilities is out of service."
- " Breakdown maintenance. Work implemented after failure of facility but based on advance planning."
- " Emergency maintenance. work necessitated by an unforeseen breakdown in planning."

The Manual on a Uniform System of Port Statistics and Performance Indicators, recommends that, all ports should introduce and follow a comprehensive maintenance policy incorporating planned, preventive and corrective maintenance. A comprehensive planned maintenance system should include the following elements:

- a) a planned replacement policy;
- b) the system purchase and stocking of spare parts;
- c) planned maintenance programmes;
- d) record of each machine of the work done and its cost.

a) Planned replacement policy

A planned replacement policy is important. Its purpose is ensure that the machine is replaced before its availability for service drops and/or the costs of keeping it in service become uneconomic. .

Several ways have been proposed in which a policy can be decided according to past records of machine use.

If they are not available, it is recommended that until full records have been kept for some years of machine use and operating costs, a simple system based on an expected useful "life" should be used.

b) Planned provisions of spare parts

In order to affect proper maintenance of machinery,

it is essential to have a reliable and adequate supply of spare parts. Orders for new machines should include a provisions that they should be accompanied by a supply of spare parts, usually for 3 years operation. After one year operation the responsible engineer will be able to assess the rate at which the various kinds of spares are being used and revises the requirements of further spare parts orders accordingly. The aim must always be to have spares available to ensure that machines are not kept out of service for long periods.

Shortage of cargo handling equipment due to unserviciability is very damaging to the efficiency and reputation of the port.

c) Planned maintenance programmer

The three basic requirements are:

- a programmer of regular maintenance for the plant and equipment
- a means of ensuring that the programmer is fulfilled.
- a method of recording and assessing results

d) Records system

The maintenance of proper records is of great importance and indeed is the foundation of a sound maintenance system.

An efficient records system includes a programmer that sets out the work that has to be done at regular intervals on each machine, records when regular servicing has been carried out, and the labour and spare parts involved.

It also records the amount of unscheduled work e.g. break-downs or accidents and its cost in man hours



and materials. From these records, it should be possible to draw parallels for the future purchasing of equipment, and inventories.

Five basic documents are recommended:

- register of equipment
- maintenance schedule for each item in the register of equipment
- master plan of work to be carried out over a given period
- work specification for each activity to be carried out
- vehicle maintenance record (it is recommended that this can be done simply and effectively by having in the office of the mechanical superintendent a filing cabinet in which could be kept a file for each vehicle.) It is the duty of the engineer responsible for the maintenance of cargo handling equipment to provide information about the availability of various items of mechanical handling equipment at least once every day and also give notice as to when machine will be withdrawn for routine maintenance in accordance with the maintenance programmer.

The author proposes a model given by UNCTAD in the above quoted Manual for the daily equipment schedule.

The sheet form for the equipment availability contains the following information:

- Type = whether forklift (f.1) mobile crane (MC) No  
(identity number e.g. f1 (for forklift =//=1)
- Make = e.g. Hyster, Jones
  - Cap(t) .....= capacity of machine
  - A = available for services
  - UM = under planned maintenance
  - USINCE = unserviceable since (insert date machine  
will be required for maintenance
  - EDA = estimated date machine will be required  
for next routine
  - ALLOC = this column left blank by engineers (its  
for the use of the operations department).  
(17).

#### Remarks:

All the above information is basic and can be produced in any port no matter how limited its resources.  
The objective is to permit the port manager to function effectively by having a minimum knowledge of ports equipment .

#### Port Operations

The port of Bujumbura will probably improve its operational activities after the crash programmer is carried out.  
However the author would like to provide some guidelines.

- The creation of the engineering department if organized properly and working in close consultation with the operational department will produce a positive effect in port efficiency.

- The statistical service within port operations primary objective will be to have as much as possible information about ships, cargoes and the situation in the foreland (because of inland situation of the port.)
  - To achieve this, close cooperation and a communications network for information are required between all users (shipping companies - forwarding agents customs....)
- It will be fundamentally the task of the liaison service with port users in the operations department.

For the time being the "E.P.B" uses the coastal radio station of the shipping company "Arnolac" twice a day in order to call the transit agent of the above company in the Kigoma (Tanzania) and Mpulungu (Zambia) to monitor the cargoes along the route. There is also a cooperation between the port and the "AMI Tanzania" which manages the port of Kigoma. Telexes are sent for cargo information.

However the port managers would have to sensitize shipping company importers and exporters into following up ships and cargo and informing the port as soon as possible of their arrival. In this way the port will be able to arrange berths, handling equipment etc in advance.

UNCTAD in the Manual on a "Uniform System of Port Statistics and Performance Indicators" UNCTAD, 1983 gives guidelines for statistics on general cargo and container operations. The author suggests that the "EPB" through the Ministry of the Transports, Ports and Communications should request the assistance of UNCTAD before the introduction of these schemes which seem to be complicated.

The address: UNCTAD, Palais des Nations, Geneva, Switzerland or their local UNDP resident representative.

In the meantime the port managers should order the above document for their attention.

#### Port tariffs

The traffic book is very old, dating back from 1932. Although, the port is still in a transition phase, analysis should be made to see whether these classifications are still relevant or another mode of classification should be adopted, for example;

- Break bulk is hardly handled compared to bagged cargoes,
- Dangerous cargoes request some measures of security with additional cost to the port,
- Goods which need some special arrangement must be charged differently.

#### Institutional port types

For the time being the port is managed through a concession convention which is supposed to end by 30th April 1997. Before that period has ended, the government should think about other alternatives for port management and assess which one will be most suitable to the port during that period.

The author proposes a number of various port types, with their advantage and disadvantages.

Knowing the adverse side of each may result in typical errors being avoided.

To deal with this, the Port Administration and

Legislation Handbook of United Nations, and the UNCTAD Manual on Port Management will be referred to.

#### i) Private ports

The privately owned and operated ports have the advantages inherent to private enterprise. In order to survive, it must be operated efficiently and economically. In a developing country investments by private enterprise could release government funds for use in other public activities.

In order that undue advantage should not be taken by such companies, tariff rate for charges, as well as rule and regulations, are normally subject to approval.

The port of Manchester in the United Kingdom, has proven that privately owned ports, in addition to improving the economy of the country, can be self-sufficient and well operated. The main disadvantage, however, lies in the matter of financial stability and continuity.

#### Characteristics of private ports

- a) equity financing
- b) Maximizing profits
- c) commercial management

#### ii) National ports

Where uniformity of port charge and condition is an important objective in any country, ports would seem to be the best solution. This is because nation-wide planning would be possible under such an arrangement.

In fact this type of administration would be more suited to a country which has many ports, since, with available funds for ports facilities and equipment, there could be a concentration on upgrading fewer ports rather than having a wide distribution. Greater efficiency and lower cost may result from this approach. One disadvantage remains the high degree of centralization which can have adverse effects on management, for example political influence if ill-directed can handicap good business practices.

Characteristics :

- a) centralized control,
- b) financial strength
- c) rationalization of activities.
- d) no user representatives (advisory body)

iii) The autonomous port Authority

This structure is characterized by the following:

It is considered to be a quasi-government body. Where traffic volume and conditions in general so warrants it, this establishment is probably ideal for the development, management and operations of the port.

Disadvantage:

It is true that it entails additional extension and that some new expenditure may be incurred, but a knowledgeable, adequate and independent authority can produce results which may offset any of the possible disadvantages.

Characteristics

- a) elected and appointed members

- b) too much user representation
- c) no profit-making
- d) independent from Government.

#### Rules and regulations for port activities

The port of Bujumbura does not have the basic regulations for matter relating to day to day operations .

The existing maritime legislation is insufficient, and needs some up-dating.

Even those laws which do exist have only administrative characteristics and do not pertain to commercial maritime law.

For more details consult " Rapport de mission "made by the Regional maritime legislation adviser Mr. Xavier Ghelber, December 1982.

The author will concentrate only on port regulations.

In fact, within the existing maritime legislation there is a provision referring to Port regulations composed of ten articles most of them relating to security and its zone area.

None of them talks about traffic or other matters relating to Port activities.

In the section dealing with Economic legislation, the only aspects which are referred to are:  
dangerous cargoes /explosives and inflammable.

In addition reference is made to:

Sanitation and removal of wrecks, in chapters three and five respectively, under the heading "Navigation Regulations."

In order to promote safety and efficiency within the port, the author recommends the Port Managers to consider the "Background document proposals on : Harmonizations of Port

Regulations and procedures" to the Southern Africa Transport and communication commission.

Care should be taken to avoid conflict whenever such regulations fall under the jurisdiction of immigration, custom or the waterway department.

The proposal made by the author should be seen only as a guideline for the establishment of the port's own regulations.

For the most part, the basic principle of port's rules and regulations are uniform throughout the world; They are governed by the following fields of port activities:

- 1- Documentation of vessels and cargoes
- 2- Arrival/departure/berthing
- 3- Responsibility of the Master and of the Port Authority
- 4- Tug boat services
- 5- Sanitation, health and environment
- 6- Dangerous cargo, explosives
- 7- Oil terminal
- 8- Repair to ships
- 9- Safety
- 10- Container units
- 11- Tariffs

Chapter VI of the above quoted document concerning Port regulation proposals is attached as Appendix III.

## Training

Rapid changes in technology and sophisticated development in shipping and Ports have not yet affected the Port of Bujumbura due to its enclosed state . This has hampered its development to the extent that, the Port of Bujumbura



still uses a high density of the dockers which represented 67,8% of the total work force in 1986. For the time being there is no urgent needs for setting up a training programmer since the handling equipment and cargo handling method meet existing needs.

However, greater involvement of Port Managers in shipping and transport matters are of utmost importance especially in the matter of exchange of information with the Managers of the Tanzanian Port , this in order to keep themselves informed, so as to be ready to meet any sudden changes, thus being in a better position to plan.

It is more than a necessity for the Port of Bujumbura to join " The Port Management Association of Eastern Africa", in order to be informed of any possibility of participating in seminars, symposiums, training and job-training.

## CHAPTER FOUR

### DEVELOPMENT OF THE PORT OF BUJUMBURA CONSTRAINTS AND PROSPECTS.

After having completed an in-depth analysis of port operations and management some proposals and guidelines have been given for the establishment of an efficient Port.

But this work would appear incomplete without a short analysis of the Port within its environment, i.e physical, political, geographical, and economic.

The promotion or the decline of a Port, especially an Inland Port corresponds to the degree of flexibility of the Port Managers and Government policy vis a vis to internal and external constraints.

#### Internal Port Constraints

Two different types of constraints will be distinguished, at the Port level and at the National level. (hinterland)

The author will only consider the latter level since the former has been discussed in the second and third chapters.

#### The National Level:

i) The low degree of industrialization and trade of the country.

The inland Port of Bujumbura has been created in order to serve a large hinterland. (East of Zaire, Rwanda and

Burundi with a capacity of 400,000 tons of dry cargoes.

Due to bad working conditions of the central corridor, cargoes are shifting to the northern one. Indeed almost all of the Rwanda cargoes have deviated to the Northern corridor. Furthermore Zaire presently utilizes for its exports which is situated 20 km from the Port of Bujumbura.

All those factors has severely curtailed Port development which at the moment operates on a very small scale of the hinterland; nearly exclusively for domestic cargoes (which are not high as a result of low purchasing power of the majority of the population) with an insignificant part of the transit cargoes for Rwanda and East of Zaire .

According to the forecasting done by "Le Ministere a la Presidence Charge du Plan", the existing Port facilities are adequate for any coming traffic up to year 2002.

The forecasted trend of traffic for the period 1982 -2002 on the central corridor is illustrated in the under-mentioned table.

1982 : 61474.9	1993 : 142,907.5
1983 : 50,339.4	1994 : 155,153.5
1984 : 68,941.6	1995 : 167,809.5
1985 : 78,846.3	1996 : 181,713.5
1986 : 90,954.9	1997 : 198,107.8

1987 : 104,337.4	1998 : 215,524.2
1988 : 115,860.5	1999 : 235,391.5
1989 : 235,391.5	2000 : 255,461.2
1990 : 131,532.9	2001 : 279,299.9
1991 : 136,025.6	2002 : 306,084.4
1992 : 145,503.2	

Source : (MINISTERE A LA PRESIDENCE CHARGE DU PLAN )

The assumption of import substitution has also been taken into account.

Export traffic has been not considered. It has been assumed that the present export volume ranging between 20 and 30,000tons (mainly coffee ) will not exceed the magnitude of 62,000 tons in the year 2000.

The possibilities of producing nickel has not yet been considered in the forecast.

ii) The enclosed nature of the country.

The enclosed nature of the country makes the port more dependant on neighbouring ports especially those of Dar-es-Salaam, Kigoma through which the majority of the Burundian seaborne trade passes.

The working conditions of those Tanzanian ports of transit and the transport of cargo along the Central Corridor have a significant impact on the port development because the

inland port of Bujumbura is a nodal point in the whole chain. How can these enclosed port operate efficiently if the foreland does not operate adequately?

From this level the external factors are considered

### External Port Constraints

#### i) Problems in the Central Corridor.

The specific problems which hamper the throughput of Burundi's cargo in the Central Corridor have been discussed in the first chapter and can be summarized as follows:

- obsolescence of the Central Line (railway Dar-es-Salaam, Tabora, Kigoma)
- lack of maintenance facilities, equipment and spare parts;
- inadequate communication facilities and deficiency in wagon control;
- shortage of a qualified labour supply, thereby resulting in low productivity;
- congestion at terminals and ports;
- shortage of wagons;
- insecurity of merchandise resulting in pilferage;
- long delay of transit;
- heavy transshipment which increases damage and pilferage; - conflict of responsibilities due to a many intervening parties.

In fact Burundi transit cargo passes through four companies , three of which operate in Tanzania and the fourth one in Burundi,namely,THA (Tanzania Harbor Authority), TRC (Tanzania Railway Corporation), AMI (Agence Maritime Internationale) which manages the Port of Kigoma; and last the Belgium shipping company ARNOLAC

which operates in Burundi and carries the totality of the central corridor cargoes.

ii) Problems faced in the trading routes

a) Port of Mpulungu (Zambia)

The role of the Southern trade "Mpulungu-Bujumbura" for the regional integration has been touched upon in the second chapter and the importance of the route for the Burundian economy has been clearly shown in the first chapter.

However, more improvement should be done in the Port of Mpulungu especially for the acquisition of handling equipment and for the development of the infrastructure network. In fact this small Port already suffers from congestion.

b) Port of Kalemie and Kabimba (Zaire)

These Ports have no specific problems concerning their capacity. The Port of Kalemie has the same standard as the port of Bujumbura. Whereas the Port of Kabimba due to its proximity to the Port of Bujumbura makes the latter useless for Zaire transit cargoes.

Despite the above-mentioned, the Government is aware of the importance of the Port which has been defined as the "Lung" of the country. A number of measures have been formulated for its development in terms of its self propelled growth and through regional co-operation.

**Prospects for Port Development**

i) Inside the Port

The purpose of the master plan of the Port undertaken by

"Groupement Inter G et la Chambre de commerce et d'industrie de Bordeaux" in 1985 is to search for suitable locations for new port development and to rationalize port land-use. Within the master plan the future development of the Port has been contemplated up to year 2010.

Among the guidelines which have been adopted from the master plan are the following:

- Containerization has been chosen as the suitable mode of transport to develop on the lake in the medium term.
- The industrial zone, has been reserved for potential industries which may need the Port for their developments.
- The ferry service has been reported for long term development as it demands a lot of investment and is incompatible with the existing facilities. Furthermore, for economic viability significant amounts of traffic must exist. However, this is not the case at present.
- A shipbuilding yard is being constructed in the Port Zone the necessary land space has been allocated. However this shipbuilding facility will not be under the Port control. Nevertheless, this shipbuilding yard will promote shipping development and consequently Port activities as well.

## ii) Regional Level

### a) Central Corridor

Since 1977 meetings are held every year alternatively in Tanzania or Burundi in order to cope with all problems faced in the Central Corridor. (La commission mixte Burundi -Tanzania )

However from the author experience ,these meetings are unproductive due to their bureaucratic nature. Every year the same problems are raised, proposals made but seldom

implemented.

For example the construction of Burundi entrepot in Dar-e -Salaam for its transit cargoes had been delayed for a long time. Additionally the offer made by Burundi to purchase its own wagons which would be managed by the Tanzania Railway Corporation, has not yet been answered.  
(18)

A major problem facing a landlocked country and of course an Inland Port is that the control is not in country's hands but in that of a foreign territory. Only an effective regionale cooperation plan can improve the situation ,without which the development of an Inland Port is severely restricted.

The author recommends a re-examination of the proposal that Burundi purchases its own wagons. This will certainly have the effect of reducing the delay time of transit cargo. Management of this purchasing aspect should be undertaken by a local company.

According to the "study on handling of containers in Tanzania and neighboring country"

The part of Burundi solid cargoes represented only about 16,5% ;12,1% and 12% of the overall traffic in the Central Corridor in the year 1978, 1982, 1983. Conversely, almost the totality of cargoes which transit through the Lake Port of Kigoma are destined to Burundi.

For the moment the capacity of the Port of Kigoma does not cause particular problem. In the future, attention should be made for the synchronization of the Inland Port of Bujumbura and Inland Port of Kigoma development.



b) Transit Regime

The convention known as "Belbase" concluded in 1921 by British and Belgian colonial administration has been regulated the traffic on the Central corridor of Zaire, Burundi, Rwanda until its denunciation by the Tanzania Government in 1971 for being a lease in perpetuity.

According to the Tanzania Government a lease in perpetuity was incompatible with the sovereignty of the country granted by an authority whose jurisdiction was limited in duration .

However the Tanzania Government expressed that, pending a new agreement, minimum changes should be made in the existing arrangement.

In fact Burundi cargoes have the same treatment as Tanzanian ones nonetheless the author would like to draw attention to the importance of the provisions confined in the Belbase convention for a landlocked country.

The above convention granted a portion of docks in the Port of Da-es-Salaam and Kigoma. In return, The Belgians were entitled to their commercial development.

Furthermore general freedom along the established route to persons, goods, ships, railway carriage and trucks. It also granted certain customs and dues exemption and transit facilities.

The recommendations from the above mentioned is that the Burundi Government should negotiate a lease of a portion of docks in the Port of Dar-es-Salaam and Kigoma for the following up of its cargoes.

Of course the provisions of the new agreement will take

into account the new reality. The same facilities are granted in others countries to landlocked countries which use their ports. For example in the Port of Hamburg. The acquisition of the site for the construction of an entrepot should be also a priority in order to minimize the transport cost.

If these proposals could be put into practice there is no doubt that other secondary problems will be reduced.

#### c) Route Mpulungu-Bujumbura

The role of the trading route Kalemieö Kabimba-Bujumbura has been pointed out in Chapter 2.

However special mention must be made of the Southern route Mpulungu - Bujumbura. The trade from the Southern part of Africa across the lake Tanganyika has grown continuously since 1984.

As a matter of interest the reality has superseded 3.3 times the forecast of the "Ministere a la Presidence Charge du Plan "in year 1986 ;19,586 with respect to 65,822 tons.

The author believes that this route will realize an expansion especially with the implementation of the Treaty for the "Establishment of the Preferential Trade Area for Eastern and Southern African States (PTA )" signed on December 21, 1981 and entered into force on September 20, 1982. It comprises more than fifteen countries five of which are directly concerned with the route Mpulungu across the lake Tanganyika viz; Zambia, Zimbabwe, Malawi, Burundi as well Rwanda to a minor extent in the North. Its role is to promote co-operation and development in all

fields of economies activities in order to reach an African Common Market in year 2000.

Concerning the transit regime, coastal states are specifically required to cooperate with landlocked Member States in maritime transport so as to facilitate the trade of such landlocked Member States.

For the time being, the Treaty is in transitory period of ten years from the date of entering into force.

The author beleives that, if this Treaty works well , it will unquestionably have the effect of promoting trade development on route through Mpulungu, therefore renewed life to the inland Port of Bujumbura.

## CHAPTER FIVE

### CONCLUSION AND RECOMMENDATIONS

The characteristics of an inland port of a landlocked country are quite distinct from those of a seaport, and from those of an inland port of a coastal state. This is because an inland port of a landlocked country evolves in a rather unique environment.

The optimum location of a port vis-a-vis the hinterland and the sea has always been the crucial consideration for port development. However, this precondition has not been applicable to the Port of Bujumbura for obvious reasons. The port serves a very small part of the hinterland (almost exclusively the country) and does not enjoy a direct access to the sea. This makes the port highly dependent on the neighboring ports of Dar-es-Salaam and Kigoma in Tanzania and also on the working conditions of their railway which carries the majority of the Burundian seaborne trade.

Neither the Government nor the Executive Body of the Port has complete autonomy in their decision making since many factors are not under their direct control; for example waiting time of cargoes in port, allocation of wagons, port pricing policy, tariff etc.

All these factors have hampered the development of the inland port of Bujumbura. As it has already been indicated the Port has a capacity of 400,000tons of dry cargo, but from 1959 up to the present time, this level of tonnage has never been reached. Even though according to the study done by the "Ministere a la Présidence charge du plan" the present facilities of the port are adequate for the

traffic up to the year 2002. Despite all these problems inherent to Burundi landlocked condition, the importance of the inland port of Bujumbura to the economy of the country cannot be denied. The role of this port has been categorized by the author into three area: international, regional, and national. These are respectively explained as follows:

- International:  
as gate towards the maritime port of Dar-es-Salaam;
- Regional:  
as a mean of promoting the economic integration of the sub-region due to its ideal position in the region.
- National:  
as a means of providing incentive for development.

In order to fulfill the above mentioned functions, strong governmental support is required. The following recommendations are therefore put forward:

i) With respect to seaborne trade, the Government should become more involved in following up its import and export along the Central Corridor which despite its problems, presents many advantages for Burundi trade. The Government should find ways of minimizing the problem of transit delays and pilferage which are common to the Central Corridor possibly through a bilateral agreement with the Tanzanian Government. Measures which may reduce these problems include:

- a) purchasing of sufficient wagons for Burundi cargoes;
- b) the establishment of a local company for the management of these wagons;

c) negotiations for the leasing of the a portion of the dock in the respective ports of Dar-es-Salaam and Kigoma for facilitating the efficient monitoring of its imports and exports.

d) the acquisition of a site in Dar-es-Salaam for the construction of an entrepot not far from the port and where sufficient infrastructure network already exists and linked with the railway network;

ii) From the regional point of view, there is no doubt that the port will be renewed with the implementation of the treaty "PTA" (Preferential Trade Area). Measures have been already been set up in respective member states to restructure their national economy to reach a common market by the year 2000 .

iii) At the national level, the inland Port of Bujumbura can be used as a means of incentive development when a certain level of industrialisation is reached. For the moment the inland Port of Bujumbura is an import port, but with industrialization some facilities may be offered to processing industries which are located nearby or free zone processing area for some export commodities may be granted.

Finally, Port Managers should improve their expertise in order to render good services with minimum cost. In this way, Government expenditure can be reduced. It is for this reason that the author has entered into a deep analysis of Port Management, Organisation and Operations. Some changes appear to be a necessity. Some proposals have been made, the most important being the following:

- a) a new structure of the port, because the author believes strongly that success cannot be achieved if the organisational structure and the management are not clearly defined and designed.
- b) a maintenance policy in order to improve the port efficiency;
- c) the Port of Bujumbura should join the Port Management Association of Eastern Africa, at least as an Associate Member, to discuss the problems relating to their trade through member ports, such as costs, storage, free zone, custom etc.
- d) the Port should require the assistance of UNCTAD for the introduction of the Indicator Performance Schemes.

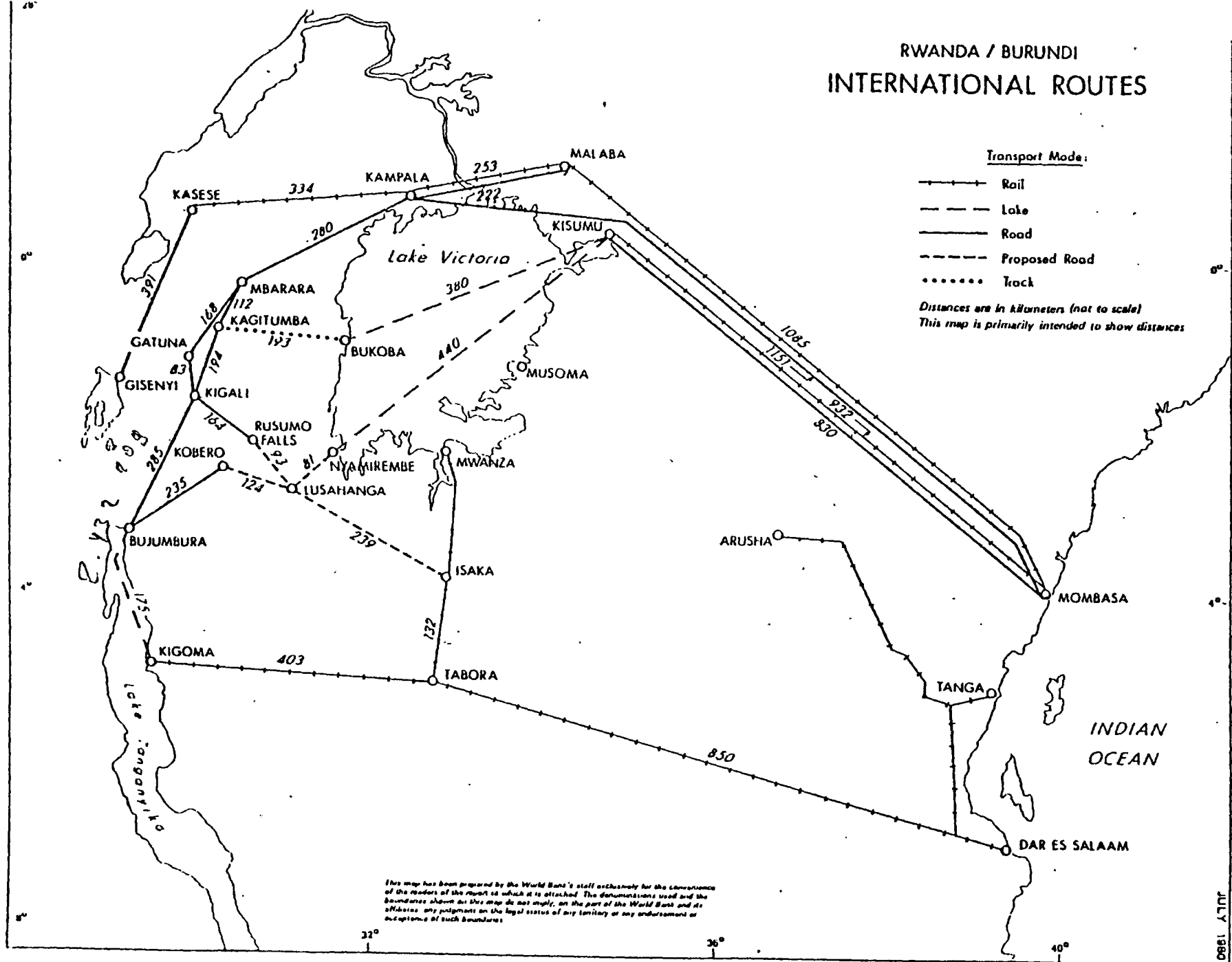
It is hoped that this in-depth analysis of the Port of Bujumbura and its problems can assist decision-makers in the development of the port and thereby aid in the improving economic situation of Burundi .

# RWANDA / BURUNDI INTERNATIONAL ROUTES

## Transport Mode:

- +—+— Rail
- - - Lake
- Road
- - - Proposed Road
- ..... Track

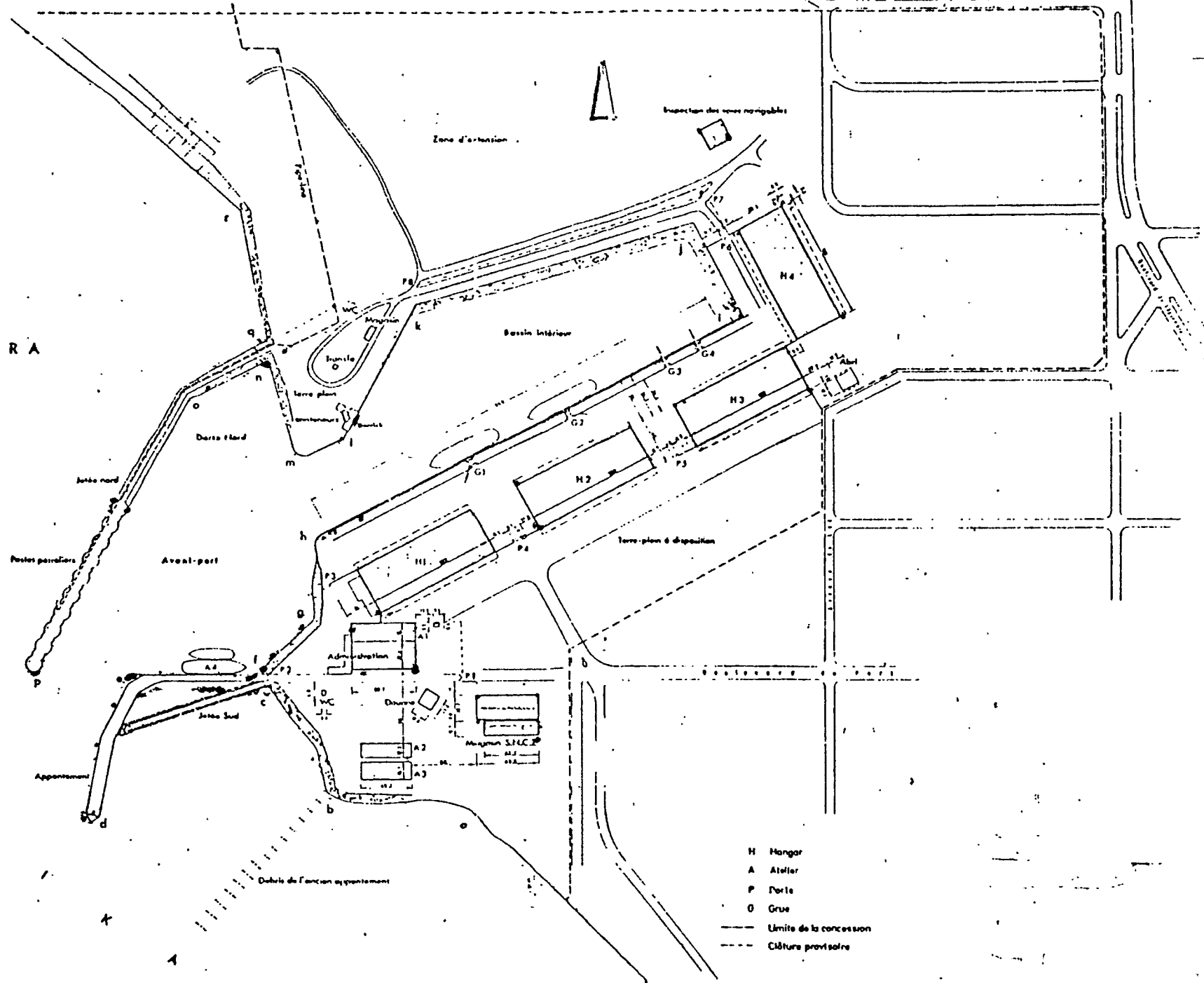
Distances are in kilometers (not to scale)  
This map is primarily intended to show distances



I B R D 14636R2  
JULY 1980



# P. O R T D E B U J U M B U R A



- H Hangar
- A Atelier
- P Porte
- G Grue
- Limite de la concession
- - - Clôture provisoire

Note : In all ports, vessels are charged port dues according to their GRT, with the exception of RO/RO vessels which are charged by their length in Tanzania. The rates are categorical to GRT; as for instance vessels between 10.000 - 20.000 tons and 20.001 - 30.000 tons. A lumpsum is charged for three - seven days stay in port; practice varying both in duration and in appliance.

## 12. Gross Register Tonnage

### Note a

No definition of GRT are to be found in the present regulations and rules. Vessels can carry register certificate a/c 1947 years Measurements Convention Act or 1969 corresponding Act, or both.

After 1986, only 1969 years convention act is valid in principle for the countries that have ratified and adopted the convention. Despite the fact that the countries of the SADCC - region are non-participants to this Act, its rules ought to be adopted.

### Note b

The expression GRT is not used in 1969 years Measurement Act. It is replaced by a "unit entity" defined in the Act.

## 6.1.1 Outlines for Port Regulations and Procedures in the Three Coastal Countries of the SADCC Region

### Introductory determinations

#### Art. 1

##### Appliance

This port - ordinance applies to the port of ..... and is valid within following area : .....

#### Art. 2

##### Governing body

The port is governed by ..... The executive power of the governing body is excercized by the port director/ general manager.

Art. 3

Port office

In this ordinance, with the expression port - office means .....

Art. 4

Vessel

Vessels shall mean any kind of object (except sea - air - planes) utilized for the transport on water and any other object that can be moved in or on water.

Art. 5

Navigating rules

The master of a vessel shall, while navigating within the port area and at berthing, unberthing or mooring of said vessel, act in such a manner as not to cause nuisance, damage, or accidents to port installations or other vessels. Reasonable precaution should be taken as to not endanger safety of the environment.

Art. 6

Allocation of berth

A vessel is not allowed to berth, unberth, anchor or move along - side the quay, unless berth, anchorage etc. has been allocated by .....

The Port Authority reserves the right to move any vessel at any time if so required by the common interests of the port and its customers.

Art. 7

Depth of water

The master is obliged to keep himself posted regarding depth of water at a allocated berth.

Art. 8

Mooring/Berthing

Mooring, unmooring, shifting of a vessel from one berth to another shall be carried out in such a manner that danger or hinderance not occurs also so that other vessels or port installations are not damaged.

Art. 9

Pilotage

Pilotage is compulsory and to be paid for by the vessel, whether the service is utilized or not. The agent acting for the master or the owner is obliged to apply to ..... for a pilot at least three (3) hours before pilotage is due to commence.

The master of a piloted vessel is obliged to allow the pilot to carry out his duties and follow his recommendations.

Art. 10

Tugboats

Tugboat service at berthing and unberthing is compulsory and to be paid for, whether employed or not.

The agent/master or owner of a vessel is obliged to apply for tugboats as early as possible and at least three (3) hours before the towing/assistance is due to commence.

Art. 11

Refuse to enter

..... reserves the right to refuse entering of the port of any vessel if the vessel is considered a danger to other port activities or to the environment or is or can be a hinderance to the traffic.

Art. 12

Grounded or sunken vessels

Masters are obliged to navigate so that their vessels are not grounded in the port or other navigable waters. If a vessel has run aground or sunk, the Port Authority may order the master/owner to remove the vessel.

Owner to other objects, sunk in the port area, may also be ordered by the Port Authority to remove such objects.

If a vessel has run aground or has sunk, the master or the owner is obliged to inform the Port Authority immediatly.

Art. 13

Salvage of sunk vessels

Salvage or recovery of sunk vessels or other objects must be permitted by the Port Authority. The permission is subject to any condition that may be imposed by the Port Authority.

Arrival and departure

Art. 14

Arrival notice

The master, owner or agent of a vessel with the intention of calling at the port, shall notify the port office three (3) days ahead of estimated time of arrival (ETA) for liner vessels and as early as possible for other vessels.

The notice shall be confirmed at least 24 hours before arrival.

The arrival notification shall contain information regarding the vessels name, dimensions, draft, ETA, nature and quantity of cargo.

Art. 15

Notice of arrival

As soon as a vessel has arrived in the port and latest the day after the arrival, the master/owner or agent shall notify the Port Office about the arrival of the vessel.

Art. 16

Notice of departure

The master/owner or agent of a vessel shall notify the port office three (3) hours prior to estimated time of departure (ETD). The notice shall contain ETD and the vessels destination.

Documentation and handling of cargo

Art. 17

The master, owner or agent of a vessel calling at a port shall present 24 hours prior the arrival of the vessel or latest at arrival, a true Manifest in triplicate

of cargo for discharge with all particulars regarding nature, volume of cargo and freight charged. The manifest shall also contain whether the cargo is local, in transit or to be transhipped.

No discharge is permitted unless authorized by the port and the Customs department.

Art. 18

Documents outward cargo

The master, owner or agent of a vessel shall inform about cargo to be loaded three (3) hours prior to the actual loading.

This information shall be given in prescribed forms in triplicate. No loading is permitted unless authorized by ..... and the Customs department.

Art. 19

Documents for receiving and delivering of cargo

The port shall issue to the master, owner or agent of a vessel, a receipt of all cargo landed with the appropriate notation as for cargo damaged, over - or short-landed.

The master shall acknowledge by receipt signed by himself or the agent of the vessel, all cargo received onboard his vessels.

Bill of Lading -  
Delivery order

The port will deliver inward cargo against original Bill of Lading, duly authorized by the Customs department.

In special cases, delivery may be obtained against Delivery order if the bearer of such an order is recognized as the legal owner of the cargo.

Receipt

..... shall issue, in prescribed forms, receipt of all cargo received from owner, forwarding agent etc. for loading as per instructions.

Art. 20

Loading and dis-  
charging

All activities regarding loading and discharge of vessels, stevedoring and cargo handling within the port area are the monopoly and the responsibility of the port. The master of a vessel or a person appointed by him, is responsible for the actual stevedoring work in his vessel.

Art. 21

Tariffs Working  
hours

As for Tariff for all services rendered by the port and for actual working hours and conditions reference is made to the Port Tariff Book of .....

Art. 22

Storage

The Port Authority reserves the right to store and accomodate all cargo in warehouses, open places or sheds within the port area, in the common interests of the owner of the goods and of the port.

For charges and free period of storage, and for all conditions imposed herewith, reference is made to the Tariff Book of .....

Art. 23

Special rules

Notwithstanding the supreme power assigned the port in cargo handling and storage, the following special rules should be observed.

Art. 24

Loading, discharging, transport and storing of goods is allowed only on sites disposed for such activities.

Art. 25

Goods shall be handled in such a manner that it is not damaging buildings, cranes, railway - tracks, asphalt or concrete surface; also so that it is not endangering any person.

Goods must not be placed closer than ..... meters to crane - tracks or the end of the quay and not closer to railway tracks than ..... meters.

Railway cars, lorries, trucks or other vehicles are not to be placed within the port area in such a way that they are a hinderance for the traffic. In the port area, vehicles are allowed to park only at places assigned to parking or permitted by ..... in each case.

Warehouses, cranes, bollards, gangways, salvage material or fire-posts are never to be blocked.

At movement of railway cars, lorries and other vehicles, precautions should be taken in order to avoid danger to persons and goods.

#### Art. 26

Odour emitting goods

Odour emitting goods is not to be placed or stored in warehouses, other storage areas or at the quay, if the goods through leakage, odour or otherwise constitutes risk for damage or other inconvenience to persons or goods.

#### Art. 27

Residue etc.

Dumping of residues is strictly prohibited. Residues are not to be deposited at any other places than allocated by ..... Removal of residues etc. shall be carried out as instructed by ..... and on the owners expense.

It is strictly prohibited to outlet toilet residues or water above the quai-level on the landside of the vessel, also on other vessels or crafts.

#### Art. 28

Danger to environment

Masters are subject to all instructions and directions the Port Authority will impose, in order to protect the environment.



Art. 29

Fire precaution

The master of a vessel in the port is obliged to take reasonable precautions against the risk of fire. The pumps shall always be ready for instant use and appropriate personal be onboard.

Art. 30

Dangerous cargo

The master, owner or agent of a vessel shall at least 24 hours prior to the arrival of a vessel, notify ..... all dangerous cargo onboard to be discharged in the port.

Corresponding notification shall be given by owner/forwarding agent or other person, who intend to have dangerous cargo shipped through the port.

Dangerous is cargo such considered in the International Maritime Dangerous goods Code (IMDG).

Handling, transportation and storage of dangerous cargo shall be in accordance with the rules of the aforementioned code in such a way the Port Authority consider appropriate.

Special rules

Art. 31

Repairs

It is prohibited to carry out repairs to the super-structure of a vessel, unless permission has been obtained from ..... except in dock-yards.

Repairs may be carried out without permission if they can be considered as minor. Applications for carrying out repairs shall be presented ..... and no major work is to be carried out unless permitted.

Art. 32

Propellers

It is prohibited to operate the propulsion mechanism of a moored or anchored vessel, except at arrival and departure, unless permission is granted by .....

Art. 33

Laid-up vessels

No vessel is to be laid up or more permanently moored without permission from the ..... Permission can be conditional.

Art. 34

Report of damage caused

Whoever has caused any damage on quays, cranes, bouys or any other installations or building has to report the damage caused to .....

Art. 35

Rules for special terminals

For oil, dry bulk cargo and passenger terminals, special rules apply and are posted as follows.

Rules for oil terminals - Appendix 1  
Rules for dry bulk terminals - Appendix 2  
Rules for passenger terminals - Appendix 3  
Rules for container terminals- Appendix 4

Art. 36

Tariff Book

For tariffs and rates on vessels and goods and for all services rendered by the port, reference is made to the Tariff Book of ..... Conditions stated in the Tariff Book have the same validity as if stated in this Port Ordinance.

Art. 37

Fines

All contraventions to the articles 5, 6, 8, 12, 13 of this Port Ordinance are subject to fines imposed by ..... in each case.

The fine shall not be in excess of ..... and not less than .....

**WHARF**

Structure alongside which a ship is moored to load or discharge cargo.

**WRECK**

This term includes jetsam, flotsam, lagan and derelict, found in or on the shores of the sea or any tidal waters.

## FOOTNOTES

- (1) Jeune Afrique No 1431 du 8 juin 1988 (Article sur le Burundi)
- (2) Rapport No 6068-EAF sur les transports internationaux Burundi-Rwanda du 26 mars 1984 de M.J.Van der Ven p.86
- (3) Rapport No 6068-EAF ibid. p.77-83
- (4) Branch A.E. Elements of port operations and management. Chapman and Hall, London New York, 1986 p.2
- (5) Convention Interpretative du 28 janvier par l'A.R du 11 fevrier 1935 (B.O. p.307)
- (6) Ordonnance No 600/179 du 5 septembre 1959 (B.O.R.U p.1143)
- (7) Baudelaire J.G. Port Administration and management published by the International Association of Ports and Harbors. Tokyo 1986 p.34
- (8) Ordonnance ministerielle No 630/138 du 28 juin 1977 (66-d-262-309): Salaire minima par categorie professionnelle. Recueil de la legislation du travail du Burundi, Code du Travail et Mesures d'Application C.P.F. Aout 1987, p.216
- (9) Baudelaire J.G. p.140-141
- (10) Branch A.E. ibid p.147
- (11) Baudelaire J.G. ibid p.132
- (12) Article 228 Legislation Economique et Divers - Douane Codes et Lois du Burundi
- (13) Branch A.E. ibid p.147
- (14) Baudelaire J.G. ibid p.251
- (15) UNCTAD Port development, Second edition revised and expanded New York 1985, p.119.
- (16) UNCTAD: Manual on a uniform system of port statistics and performance indicators. Second edition, United Nations Geneva 1983. p. S-6.
- (17) Proces-Verbal de la Deuxieme Reunion de la Commission Mixte Burundi-Tanzanie, tenue a Arusha du 17 au 19 decembre 1986.

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Ordonnance Ministérielle No 550/46 du 9 mars 1979 fixant les tarifs de base de toutes les taxes portuaires (sauf sur la du manutention et pompage carburant)

Ordonnance Ministerielle No 550/229 du 31/10/80, fixant les tarifs de manutention pour chargement des camions au Port de Bujumbura

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Transport Economics. Norwegian Center for Transport  
Research, Oslo, June 1987.